Rockv Flats Closure Proiect
Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

WBS No: 1GABO	201 <u>Title:</u> Group NE-1 (B-1, B-2, B-3	Ponds)										
Activity ID: 1G00	Description: B Ponds Conceptual Design	ı						Cost Risk	2 Schedule R	Pisk 2		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0010	Conceptual Design	1.00	each	EE	240	240	6.347	4.229	0	10.576	1.790	12.366
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.779	1.779	0	1.779
	To	tal for Activi	tv 1G00B20	040:		240	6.347	4.229	1.779	12.355	1.790	14.145

Line Item 0010 - Conceptual Design

1GAB0201

1G00B20040

BOE Estimat

WBS No:

Activity ID:

Estimators Experience - Similar work with Design documents for Groundwater Plume projects.

Experience Item Desc - Conceptual Design

Breakdown of Cost Data:

Item - Develop conceptual Design

Units - 1 Unit Cost -

\$2,500 subcontractor support for conceptual design from the RISS Subcontracted Ecology Group. Dollar amounts are based on similar project support

\$2,500 subcontract support for GIS support. Dollar amounts are based on similar project support requirements.

2 weeks work for one Environmental Engineer and 2 Civil Engineers

Unit Cost Adjustment factor - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element		Skill		Department	Curve	Quantity	Units	
	750	STRAIGHT TIME BASE	E020	CIVIL ENGINEERS	R100S	RMRS Salaried	Linear	160.00	Hours
	Factors	160 hrs							
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00	Hours
	Factors	80 Hours							
Į	A5H	SUBCONTRACTED SRVS	E050	ENVIRONMENTAL ENGINEERS	K265S	ER Programs	Linear	4.228.80	Dollars

Factors 5000 Dollars

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	591.86	Dollars
	Factors	591.863 Dollars							
Ī		ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.187.33	Dollars

Factors 1187.33 Dollars

Activity ID: 1G00B20080 Description: B Ponds Readiness Assessment

Cost Risk 2 Schedule Risk 2

AUGUATE, ID. 100	Description Di chac i todamico i todocci	110111						Cost Histo	_ beneaute 1	_		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0010	Readiness Assessment/IWCP Pond B-2	1.00	each	НС	320	320	9.459	23.343	0	32.802	2.667	35.470
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	5.103	5.103	0	5.103
	Tot	al for Activi	tv 1G00B20	080:		320	9.459	23.343	5.103	37.906	2.667	40.573

Line Item 0010 - Readiness Assessment/IWCP Pond B-2

BOE

320 Hours for task integration and oversight, documentation development, and issue resolution. 2 people full time for one month.

\$27,600 for contractor to assist with finalization of the IWCP, perform pre-job evolutions, and obtain Site-specific worker training. This is the amount from the East Trenches Plume project subcontract bid.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

es	Cost Element		Skill	Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	320.00 Hours
	Fastore	320 hours				

WBS No: 1GAB0201 **Rocky Flats Closure Project** Activity ID: 1G00B20080 **Baseline Cost and Basis of Estimate**

0000 NONE

Baseline Devl Proiect 1GAB WBS Filter

Materials/ Sub

Cost

Activity Filter Starts In FY 23.342.98 Dollars Linear

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Factors 27600 \$

A5H SUBCONTRACTED SRVS

Line Item SYS - Contingency And Escalation

Resources

Line Item

s		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.697.67	Dollars
I	actors	1697.67 Dollars			I				
	FSC	ESCALATION	0000	NONE	7DFPT	No Department	Linear	3 405 67	Dollars

Labor

Hours/Unit

Labor Hours

Total

Labor Cost

Total

K265S ER Programs

3405.67 Dollars Factors

Activity ID: 1G00B20085 Description: B Ponds Site Preparation

1 Schedule Risk Cost Risk

Contingency Total Prime Burden Cost Total Cost & Escalation Cost 1.403

HC 010 180 Site Preparation 1.00 each 180 4.976 13.617 18.593 19.996 020 Equipment Repair 3.00 each EE 0 60.000 0 60.000 0 60.000 0 Λ SYS Contingency And Escalation 1.00 ea FF Λ 0 Λ 11.422 11.422 0 11.422 Total for Activity 1G00B20085: 180 4.976 73.617 11.422 90.015 1.403 91.418

BOE

Type

Line Item 010 - Site Preparation

BOE

Historical Data Source - Field preparation and mobilization costs were derived from the East Trenches Plume Project. Item Desc -

Units

Quantity

Breakdown of Historical Data:

Description

Item - Subcontract Bid was \$16,100 to mobilize personnel to the Site.

Based on the East Trenches Plume Project, support includes a fulltime RCT, 2 fulltime project engineer support personnel, 1 fulltime project manager and a halftime health and safety support.

Units - dollars/hours

Unit Cost - \$16,100/ 40 hours RCT support, 80 hours Env. Eng, 40 hours project management and 20 hours health and safety support

Unit Cost Adjustment factor - none

Revised Unit Cost -Basis for adjustment -

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00	Hours
Factor	rs 80 h							
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	40.00	Hours
Factor	rs 40 h							
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	20.00	Hours
Factor	<u>s 20 h</u>						T	
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	40.00	Hours
Factor	rs 40 h						-	
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	13.616.74	Dollars
Ensta	16100 d							

Factors 16100 d

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Line Item 020 - Equipment Repair

BOE

Estimators Experience - Discussions with Site personel

Experience Item Desc - Repair of 3 onsite pump trucks

Breakdown of Cost Data:

Item - Repair of trucks will involve preventive maintenance and major component repair since these have been sitting idle and unmaintained for 5 years. Tires, hoses, belts will have to be replaced along with pump motors.

Units - 3

Unit Cost - \$20,000

Unit Cost Adjustment factor - none

Revised Unit Cost -

Basis for adjustment -

WBS No: 1GAB0201 Proiect **Rocky Flats Closure Project** Activity ID: 1G00B20085 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter

Cost Element Resources Curve C100 AUTO MECHANIC KT10H Non Project Steelworkers A5N FUEL & UTILITIES Linear 20,000,00 Dollars

Factors 20000 dollars

Line Item SYS - Contingency And Escalation

BOE

Resources

es	Cost Element			Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3.741.49	Dollars
	Factors	3741.5 Dollars							
	FSC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	7 680 91	Dollars

Factors 7680.92 Dollars

Activity ID: 1G00R20000 Description: Pond B-2 Sediment Removal Cost Risk 4 Schedule Risk

Baseline Devl

1GAB

Starts In FY

ACTIVITY ID. 100	Description. 1 ond B-2 Sediment Kemova	al .						Cost Risk	- Deneume I	isk 5		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0010	Pre- and Post-Remediation Sampling	1.00	each	VQ	0	0	0	55.083	0	55.083	0	55.083
0030	Excavation Pond B-2	1.00	each	EE	4.252	4.252	92.520	155.197	0	247.717	32.197	279.913
0050	Waste Handling Pond B-2	1.00	each	EE	340	340	10.050	84.576	0	94.626	3.498	98.124
070	Water control	1.00	each	EE	0	0	0	42.288	0	42.288	0	42.288
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	262.268	262.268	0	262.268
	То	al for Activi	ty 1G00B200	090:		4.592	102.570	337.144	262.268	701.981	35.694	737.676

Line Item 0010 - Pre- and Post-Remediation Sampling

BOE

This activity includes pre, post and in-process sampling the pond sediments as required. This task also includes the waste acceptance sampling required for disposal. Sampling will take place using hand held equipment and the Site sampling team.

Vendor Name - KH ASD Vendor Quote - costs provided during baseline development Quote Received by - A. Primrose Date Received - 4/28/00 Item being quoted - sample costs 230 sample bottles at \$7 each = \$1,610 Shipping at \$42 for 10 bottles. There will be 23 groups of 10 bottles times \$42 = \$966 60 rad screens at \$32 each = \$1,920 60 isotopics at \$590 each = \$35,400 20 VOCs at \$280 each = \$5,600 20 metals at \$345 each = \$6,950 10 PCBs at \$150 each = \$1,500 Data validation will be done for 3 sets of 20 samples each 1 VOC Data validation cost for > 11 samples at \$246 each = \$246 3 rad data validation costs for >11 samples at \$312 each = \$936

Sampling - Rad (base cost per day) \$1,000. 10 days of sampling = \$10,000

Total Cost \$65,128 Availability - ves

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resource

rces		Cost Element		Skill		Department	Curve	Quantity	U	Inits
	A5H	SUBCONTRACTED SRVS	0000	NONE	K267S	Analytical Laboratory Services	Linear	55.082	66 Doll	lars

65128 \$ Factors

0.84576 [SYS 061400] .84576000 - System

Line Item 0030 - Excavation -- Pond B-2

BOE

The existing pump trucks will be used to excavate the pond sediment after the water is drained from the pond. Assume that 1.5 roll-offs per day of sediment can be removed per day and stockpiled per day. 43 roll-offs are required for this pond, for approximately 30 days effort with 4 days weather delay. Each day is a 10 hour day. Assume that the sediment to be removed is within 2 feet of the surface and unconsolidated. No additional equipment will be required to break up the sediment for removal. Assume 6 KH laborers will be required each day to guide the hoses and perform other tasks. 3 KH teamsters will be required to operate trucks and pumpers. One subcontract Project Manager and one field supervisor will be required

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WBS No: 1GAB0201 *Activity ID:* 1G00B20090

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY

KH Remediation Laborers 34 days * 10 hours/day * 6 people = 2,040 hours KH Remediation Operators 34 days * 10 hours/day * 3 people = 1,020 hours KH RCT support 34 days * 10 hours/day * 2 people = 680 hours

Subcontract Project Manager = \$75/hr*34*10 = \$25,500 Subcontract Field Supervisor = \$60/hr*34*10 = \$20,400 Subcontract Health & Safety = \$60/hr*34*10 = \$20,400

Subcontract Pumper truck operators = 3 at \$60/hr*34*10 = \$61,200

Materials and fuel = \$50,000

Truck leasing (3 at \$2,000 each) = \$6,000

Total A5h = \$183,500

KH/RMRS oversight includes a full time engineer, 1/4 time H&S oversight, 1/4 time Rad Engineering support.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

340.00 Hours
86.00 Hours
86.00 Hours
680.00 Hours
3,060.00 Hours
155,197.00 Dollars

Factors 183500 \$

0.84576 [SYS 061400] .84576000 - System

Line Item 0050 - Waste Handling -- Pond B-2

BOE

34 days*10 hours/day = 340 hours for a full-time waste generator on the project to perform the following tasks.

- 1) Preparing Waste Acceptance Forms
- 2) Performing Waste Acceptance Sampling
- 3) Inspection of stored wastes until shipment

It is assumed that the sediments will need to be dewatered prior to dispositioning. \$100,000 as an A5H cost has been included in this estimate as a place-holder until the dewatering methodology has been indentified and costed. This may be a simple centrifuge, or press.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

ity Units
40.00 Hours
76.00 Dollars
4.5

Factors 100000 d

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BOE A small dam

A small dam or containment is needed upgradient of the B-2 Pond to divert incoming water during the construction period. A sump pump will be required along with flexible piping to bypass the B-2 Pond and direct water to B-3 Pond. Estimated cost is \$50,000 for the engineering design, installation and removal of this structure.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resource

ces	Cost Element	Skill	Department	Curve	Ouantity Units
	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	42.288.00 Dollars

Factors 50000 d

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Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY

Line Item SYS - Contingency And Escalation

1GAB0201

1G00B20090

WBS No:

Activity ID:

Resources Cost Element		Skill	Department	Curve	Quantity	Units
CON CONTINGENCY	0000	NONE	ZDEPT No Department	Linear	188.619.70	Dollars
Factors 188620 Dollars	Factors 188620 Dollars					
ESC ESCALATION	0000	NONE	ZDEPT No Department	Linear	73.648.07	Dollars

Factors 73648.1 Dollars

ACTIVITY ID: 1GUL	Description: Pond B-2 Site Restoration							Cost Risk	4 Schedule F	ask 3		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0040	0040 Site Restoration Pond B-2		each	HC	170	170	4.862	13.532	0	18.394	1.692	20.086
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	11.081	11.081	0	11.081
	Tot	al for Activi	ty 1G00B20	100:		170	4.862	13.532	11.081	29.475	1.692	31.167

Line Item 0040 - Site Restoration -- Pond B-2

BOE

Site Restoration involves Regrading and Revegetation
Based on similar projects, this effort will require 80 hours Environmental Scientists, 60 hours civil engineers, 30 hours of ecologists (other professionals), \$16,000 in subcontracted services.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element	Skill			Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E020	CIVIL ENGINEERS	R100S	RMRS Salaried	Linear	60.00	Hours
	Factors	60 hrs							
	750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	30.00	Hours
	Factors	30 hrs							
	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	80.00	Hours
	Factors	80 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	13,532.16	Dollars

Factors 16000 \$

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

Resource

BOE

ces		Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	7.969.19	Dollars
	Factors	7969.19 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3.111.63	Dollars

Factors 3111.63 Dollars

Activity ID: 1G0	Description: B Ponds Decision Documen	t Preparation	on					Cost Risk	2 Schedule F	isk 3		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
010	PAM	1.00	each	EE	740	740	21.568	0	0	21.568	6.082	27.650
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3.978	3.978	0	3.978
	Tot	al for Activ	ity 1G00B30	020.		740	21 568	0	3 978	25 546	6.082	31 628

Line Item 010 - PAM

BOE

Estimator's Experience based generally on historical data for Ryan's Pit

item Desc:

Preparation of PAM in support of source removal of previously characterized UBC.

Breakdown of Cost Data:

Item: Preparation of PAM for Ryan's Pit source removal action modified to include GIS support.

Units: hours

Unit Cost: 40 hours GIS support, 72 hours project manager technical support, 628 hours for technical staff to write document.

Unit Cost Adjustment Factor: None

Rocky Flats Closure Project Baseline Cost and Basis of Estimate Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Starts In FY *

Revised Unit Hours: None Basis for adjustment. None

Resources

WBS No:

Activity ID:

es	Cost Element		Skill	Department		Curve	Quantity	Units	
	750	STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS		R100S	RMRS Salaried	Linear	628.00	Hours
	Factors	628 hrs							
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	K265S	ER Programs	Linear	72.00	Hours
	Factors	72 hrs							
	750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 hrs							

Line Item SYS - Contingency And Escalation

1GAB0201

1G00B30020

BOE

Resources

Line Item

es	Cost Element Skill		Skill		Department	Curve	Quantity	Units	
	CON CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	1.323.38	Dollars
	Factors	1323.38 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	2.654.82	Dollars

Factors 2654.82 Dollars

Activity ID: 1G00B30090 Description: Pond B-3 Sediment Removal

Pre- and Post-Remediation Sampling

Cost

Cost Risk 2 Schedule Risk 3										
Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost						
Cost	& Escalation	Cost								
55.083	0	55.083	0	55.083						
129.824	0	200.523	24.603	225.127						
84.576	0	92.262	2.675	94.936						
0	202.686	202.686	0	202.686						
269.483	202.686	550.553	27.278	577.831						

Line Item 0010 - Pre- and Post-Remediation Sampling

Excavation -- Pond B-3

Waste Handling -- Pond B-3

Contingency And Escalation

BOE

0010

0030

0050

SYS

This activity includes pre, post and in-process sampling the pond sediments as required. This task also includes the waste acceptance sampling required for disposal. Sampling will take place using hand held equipment and the Site sampling team.

Labor

Hours/Unit

3.250

260

0

Labor Hours

Total

3.250

3.510

260

0

Labor Cost

Total

70.699

7.686

78.385

Vendor Name - KH ASD Vendor Quote - costs provided during baseline development

Description

Ouote Received by - A. Primrose Date Received - 4/28/00

Item being quoted - sample costs

230 sample bottles at \$7 each = \$1,610

Shipping at \$42 for 10 bottles. There will be 23 groups of 10 bottles times \$42 = \$966

Ouantity

1.00 each

1.00 each

1.00 each

Total for Activity 1G00B30090:

1.00 ea

Units

BOE

Type

VQ EE

EE

FF

60 rad screens at \$32 each = \$1,920

60 isotopics at \$590 each = \$35,400

20 VOCs at \$280 each = \$5,600

20 metals at \$345 each = \$6,950

10 PCBs at \$150 each = \$1,500

Data validation will be done for 3 sets of 20 samples each

1 VOC Data validation cost for > 11 samples at \$246 each = \$246

3 rad data validation costs for >11 samples at \$312 each = \$936

Sampling - Rad (base cost per day) \$1,000. 10 days of sampling = \$10,000

Total Cost \$65,128

Availability - yes

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element			Curve	Ouantity	Units
	A5H SUBCONTRACTED SRVS	0000 NONE	K267S Analytical Laboratory Services	Linear	55.082.66 D	Oollars

Factors 65128 \$

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WBS No: 1GAB0201 Activity ID: 1G00B30090

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Baseline Devl Proiect 1GAB WBS Filter Activity Filter

Starts In FY

Line Item 0030 - Excavation -- Pond B-3

BOE

The existing pump trucks will be used to excavate the pond sediment after the water is drained from the pond. Assume that 1.5 roll-offs per day of sediment can be removed per day and stockpiled per day. 33 roll-offs are required for this pond, for approximately 26 days total. Each day is a 10 hour day. Assume that the sediment to be removed is within 2 feet of the surface and unconsolidated. No additional equipment will be required to break up the sediment for removal. Assume 6 KH laborers will be required each day to quide the hoses and perform other tasks. 3 KH teamsters will be required to operate trucks and pumpers. One subcontract Project Manager and one field supervisor will be required

KH Remediation Laborers 26 days * 10 hours/day * 6 people = 1,560 hours KH Remediation Operators 26 days * 10 hours/day * 3 people = 780 hours

KH RCT support 26 days * 10 hours/day * 2 people = 520 hours

Subcontract Project Manager = \$75/hr*26*10 = \$19,500 Subcontract Field Supervisor = \$60/hr*26*10 = \$15,600 Subcontract Health & Safety = \$60/hr*26*10 = \$15,600 Subcontract Pumper truck operators = 3 at \$60/hr*26*10 = \$46,800

Materials and fuel = \$50,000

Truck leasing (3 at \$2,000 each) = \$6,000

Total A5h = \$153,500

KH/RMRS oversight includes a full time engineer, 1/4 time H&S oversight, 1/4 time Rad Engineering support.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
Į	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	260.00	Hours
	Factors	260 hrs							
	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	65.00	Hours
	Factors	65 Hours							
	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	65.00	Hours
,	Factors	65 hrs					-		
	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	520.00	Hours
,	Factors	520 hrs					-		
	750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KG10H	Remediation Steelworkers	Linear	2.340.00	Hours
,	Factors	2340 Hours					-		
Į	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	129.824.20	Dollars
	F	4E3E00 ©							

Factors 153500 \$

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Line Item 0050 - Waste Handling -- Pond B-3

BOE

- 26 days*10 hours/day = 260 hours for a full-time waste generator on the project to perform the following tasks.
- 1) Preparing Waste Acceptance Forms
- 2) Performing Waste Acceptance Sampling
- 3) Inspection of stored wastes until shipment

It is assumed that the sediments will need to be dewatered prior to dispositioning. \$100,000 as an A5H cost has been included in this estimate as a placeholder until the dewatering methodology has been indentified and costed. This may be a simple centrifuge, or press.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element Skill			Department	Curve	Ouantity	Units	
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	260.00	Hours
1	Factors	260 hours							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	84.576.00	Dollars

100000 d Factors

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation POE

BUL						
Resources	Cost Element	Skill	Department	Curve	Ouantity	Units

WBS No: 1GAB0201 Baseline Devl Proiect Rocky Flats Closure Project 1GAB Activity ID: 1G00B30090 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY CON CONTINGENCY 0000 NONE ZDEPT No Department 144.569.70 Dollars Linear Factors 144570 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department 58.115.85 Dollars Linear Factors 58115.9 Dollars Activity ID: 1G00B30120 Description: Pond B-3 Site Restoration Cost Risk 4 Schedule Risk Labor Cost Materials/ Sub Total Prime Line Item Description **Ouantity** Units BOELabor Labor Hours Contingency Burden Cost Total Cost Type Hours/Unit Total Total Cost & Escalation Cost 0010 Site Restoration -- Pond B-3 1.00 each HC 170 170 4.862 13.532 18.394 1.692 20.086 SYS Contingency And Escalation 1 00 ea FF 11.081 11.081 Λ 11.081 Λ Λ Λ Λ Total for Activity 1G00B30120: 170 4.862 13.532 11.081 29.475 1.692 31.167 Line Item 0010 - Site Restoration -- Pond B-3 Site Restoration involves Regrading and Revegetation BOE Based on similar projects, this effort will require 80 hours Environmental Scientists, 60 hours civil engineers, 30 hours of ecologists (other professionals), \$16,000 in subcontracted services. This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions. Resources Cost Element Department Curve Units E020 CIVIL ENGINEERS 750 STRAIGHT TIME BASE R100S RMRS Salaried Linear 60.00 Hours 60 hrs OTHER ADMINISTRATIVE & PROFE 750 STRAIGHT TIME BASE R100S RMRS Salaried 30.00 Hours Linear 30 hrs R100S RMRS Salaried 80,00 Hours 750 STRAIGHT TIME BASE S020 ENVIRONMENTAL SCIENTISTS Linear Factors 80 hrs A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs 13.532.16 Dollars Linear Factors 16000 \$ 0.84576 [SYS 061400] .84576000 - System Line Item SYS - Contingency And Escalation BOE Cost Element Skill Units Resources Department Curve **Ouantity** CON CONTINGENCY 0000 NONE ZDEPT No Department 7.969.19 Dollars Linear Factors 7969.19 Dollars
ESC ESCALATION ZDEPT No Department 3.111.63 Dollars 0000 NONE Linear Factors 3111.63 Dollars Activity ID: 1G00B30130 Description: Prepare Closeout Report - IHSS Group NE-1 Cost Risk 2 Schedule Risk 3 Line Item Description BOELabor Labor Hours Labor Cost Materials/ Sub Contingency Total Prime Burden Cost Total Cost Hours/Unit & Escalation TypeTotal Total Cost Cost 01000 1.00 each EE 648 648 18.702 2.842 21.544 6.508 28.052 develop closeout report EE 02000 develop NFA documentation 1.00 each 138 138 4.099 0 4.099 1.426 5.525 SYS Contingency And Escalation 1.00 ea FF 0 0 0 18.141 18.141 0 18.141 786 22.801 7.935 Total for Activity 1G00B30130: 2.842 18.141 43.783 51.718 Line Item 01000 - develop closeout report Estimator's Experience on similar projects BOE Item Desc: Perform Data Analysis including GIS representation of data, Characterization Report, and associated project management. Breakdown of Cost Data: Item: Develop Characterization Report Units: 648 hours 2 Environmental Engineers full time for 2 weeks to develop draft 160 hrs 1 Project Manager full time for 4 weeks 160 hrs 1 Secretary 1/2 time for 4 weeks to format and copy 80 hrs 1 QA person 8 hours for review 8 hrs 2 GIS individuals 2 weeks to create/revise maps 160 hrs

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WBS No: 1GAB0201 *Activity ID:* 1G00B30130

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

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WBS Filter
Activity Filter

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ilter * Starts In FY

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2 Environmental Engineer full time 1 week for comment response 80 hrs
1 project planner 1/2 time for 4 weeks. 80 hrs

Unit Cost Adjustment Factor: none
Revised Unit Hours:

Basis for adjustment. None

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.
```

Resources

S Cost Element	Skill	Department	Curve	Quantity Units
750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	240.00 Hours
Factors 240 hrs				
750 STRAIGHT TIME BASE	E110 QUALITY CONTROL ENGINEERS	R100S RMRS Salaried	Linear	8.00 Hours
Factors 8 hrs				
750 STRAIGHT TIME BASE	G010 ADMINISTRATIVE ASSISTANTS	R100S RMRS Salaried	Linear	80.00 Hours
Factors 80 hrs				
750 STRAIGHT TIME BASE	M040 MANAGERS (GRADE 64 - 68)	R100S RMRS Salaried	Linear	160.00 Hours
Factors 160 hrs				
750 STRAIGHT TIME BASE	P060 COMPUTER SYSTEMS ANALYSTS	R100S RMRS Salaried	Linear	160.00 Hours
Factors 160 hrs				
A5H SUBCONTRACTED SRVS	P070 COST ESTIMATORS PLANNERS AN	K265S ER Programs	Linear	2,841.75 Dollars
Factors 80 hrs	42 estimated \$/hr			

Factors 80 hrs 42 estimated \$/hr

0.84576 [SYS 061400] .84576000 - System

Line Item 02000 - develop NFA documentation

BOE

Estimator's Experience:

This estimate was constructed based on actual hours required to complete previous NFA Reports (obtained from actual author) and professional judgement of level of effort required for remaining reports.

Item Desc:

Perform Data Analysis including GIS representation of data, Characterization Report, and associated project management.

```
Breakdown of Cost Data:
Item: Develop Documentation
 Units: Hours
Unit Cost: 138
        Environmental Engineer 45 hrs Evaluate & assemble existing data. Draft Report.
        SWD Technician
                               10 hrs Identify & pull existing data from database.
        GIS Technician
                               15 hrs Develop maps for Report. Print multiple copies.
        Technical Editor
                               15 hrs Complete initial and revised tech edits of Report.
        Technical Reviews
                                 4 hrs Review and comment per area of expertise.
              Peer (2)
                                 8 hrs Review and comment per area of expertise.
              Compliance
                                 4 hrs Review and commnet per area of expertise.
              Environmental
                                 4 hrs Review and comment per area of expertise.
                                 8 hrs Review and comment per area of expertise.
              Management (2)
                                 4 hrs Review and comment per area of expertise.
              Legal
        Environmental Engineer 15 hrs Disposition comments and finalize document.
        Administrative Support 6 hrs Copy & assemble final documents, submit to records.
 Unit Cost Adjustment Factor: none
Revised Unit Hours: 138
Basis for adjustment. N/A
```

s	Cost Element	Skill	Department	Curve	Quantity Units
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	60.00 Hours
_	Factors 60 hrs				
	750 STRAIGHT TIME BASE	E110 QUALITY CONTROL ENGINEERS	R100S RMRS Salaried	Linear	4.00 Hours
_	Factors 4 hrs				
	750 STRAIGHT TIME BASE	G010 ADMINISTRATIVE ASSISTANTS	R100S RMRS Salaried	Linear	6.00 Hours
	Factors 6 hrs				

WBS No: 1GAB0201 *Activity ID:* 1G00B30130

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Baseline Devl 1GAB

		baseline Cost an	u basis	Activity Filter *		Starts In FY *
750 STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K265S	ER Programs	Linear	4.00 Hours
Factors 4 hrs						
750 STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K109S	Env Svs. Stewardship & Compliance	Linear	4.00 Hours
Factors 4 hrs						
750 STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	4.00 Hours
Factors 4 hrs						
750 STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	K215S	Information Resource Mat	Linear	25.00 Hours
Factors 25 hrs						
750 STRAIGHT TIME BASE	P160	TECHNICAL WRITERS AND EDITOR	R100S	RMRS Salaried	Linear	15.00 Hours
Factors 15 hrs	_					
750 STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K101S	General Counsel	Linear	4.00 Hours
Factors 4 hrs	_					
750 STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	K253S	Remediation. Industrial & Site Serv	Linear	4.00 Hours
Factors 4 hrs	_					
750 STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	8.00 Hours
Factors 8 hrs						

Line Item SYS - Contingency And Escalation

BOE

Resources

es	Cost Element Skill		Department	Curve	Quantity Units
CC	N CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	12.939.54 Dollars
Facto	ors 12939.5 Dollars				
ES	C ESCALATION	0000 NONE	ZDEPT No Department	Linear	5.201.59 Dollars

Factors 5201.59 Dollars

Activity ID: 1GCM920515

Description: B Ponds Biological Assessment

Cost Risk 2 Schedule Risk

4

Alouvity ID. 100	Description. B I chied Diological / 10000011	OTT	Cost Risk Z Schedule Risk									
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0010a	Biological Assessment	1.00	each	HC	80	80	2.365	67.661	0	70.026	667	70.692
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	10.171	10.171	0	10.171
·	80	2.365	67.661	10.171	80.197	667	80.864					

Line Item 0010a - Biological Assessment

BOE

This task involves performing a Biological Assessment for the Pond B-1, B-2, and B-3 Pond Sediment Removal Project. This Biological Assessment must be reviewed by the regulators, which will issue a Biological Opinion. The area and type of wetland and/or habitat must be characterized before the regulators can determine if the proposed mitigation will be sufficient to offset the loss. In accordance with Section 7 of the Endangered Species Act and the Interagency Cooperation Regulations (50 CFR 402), the Biological Opinion is required for the project. The Biological Assessment and subsequent Biological Opinion are based upon information regarding cumulative effects, conditions forming the environmental baseline, each species ecological status, and the importance of habitats affected by the project to the survival and recovery of affected species.

It was assumed that one Biological Assessment would be developed, which would encompass sediment removal activities planned for Ponds B-1, B-2, and B-3.

80 Hours for task integration and oversight, issue resolution, and regulatory agency interface.

\$75,000 for a contractor to develop a Biological Assessment which addresses the cumulative effects, conditions forming the environmental baseline, evaluating potential ecological and sensitive habitat impacts.

\$5,000 for an Ecological contractor to assist in developing the Biological Assessment and to coordinate with the U.S. Fish and Wildlife Service on the species and habitat of concern.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element		Skill		Department	Curve	Ouantity	Units	
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00	Hours
	Factors	80 hours							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Linear	4.228.80	Dollars
	_								

Factors 5000 \$

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Rocky Flats Closure Project Project Baseline Cost and Basis of Estimate Baseline Devl WBS Filter 1GAB

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A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs Linear 63.432.00 Dollars

Factors 75000 \$

Line Item SYS - Contingency And Escalation

1GAB0201

1GCM920515

BOE

WBS No:

Activity ID:

Resources

es	Cost Element		Cost Element Skill			Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3.383.52	Dollars
F	actors	3383.52 Dollars							
	FSC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	6 787 63	Dollars

Factors 6787.63 Dollars

Activity ID: 1GCM920525 Description: B Ponds Procurement Cost Risk 2 Schedule Risk 2

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0010	Procurement/Contractor Selection	1.00 ea	ach	HC	480	480	13.250	0	0	13.250	3.736	16.986
SYS	Contingency And Escalation	1.00 ea	а	EE	0	0	0	0	2.444	2.444	0	2.444
	Tota	al for Activity	1GCM9205	525:		480	13.250	0	2.444	15.694	3.736	19.430

Line Item 0010 - Procurement/Contractor Selection

BOE

This activity involves the project bid phase to subcontract sediment removal from the Ponds B-1, B-2, and B-3. This activity includes issuing the Bidding Requirements, Contract Forms, Conditions of the Contract, and Specifications for the sediment removal project.

160 Hours for statement of work preparation, review of bids, conducting Site walkdown for prospective bidders, and integrating Health and Safety requirements into the Bid Package.

It was assumed that only one Procurement/Contractor Selection activity would be required for the Pond B-1, B-2, and B-3 Sediment Removal Project.

160 Hours for Engineering construction requirements interpretation, bid technical review, identification of construction specification requirements, providing numerous copies of Contract Drawings, and review/approval of Design drawings.

160 hours for Procurement to issue bid notices, provide construction requirements interpretation, received bid cost review, providing numerous copies of Contract Bid Packages, conducting prospective bidders conference, review and approval of Contract Award, and performance of contract addenda and revisions.

Resources

es		Cost Element	Skill			Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E020	CIVIL ENGINEERS	R100S	RMRS Salaried	Linear	160.00	Hours
	Factors	160 hrs							
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	160.00	Hours
	Factors	160 hrs							
	750	STRAIGHT TIME BASE	P030	BUYERS PROCUREMENT AND CON	K216S	Subcontracts Management	Linear	160.00	Hours
	Factors	160 hrs							

Line Item SYS - Contingency And Escalation

BOE

Resources

es _		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	812.99	Dollars
Fc	actors	812.991 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.630.93	Dollars

Factors 1630.93 Dollars

Activity ID: 1G0	CM920535 Description: B Ponds Field Document Pro		Cost Risk 2 Schedule Risk 3									
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0010	Sampling and Analysis Plan	1.00	each	EE	340	340	9.830	0	0	9.830	2.772	12.602
0025	Health and Safety Plan	1.00	each	HC	50	50	1.684	6.089	0	7.773	475	8.248
0050	Field Implementation Plan	1.00	each	HC	60	60	2.251	14.716	0	16.968	635	17.603
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	5.532	5.532	0	5.532
Total for Activity 1GCM920535:						450	13.765	20.806	5.532	40.103	3.882	43.985

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 Activity ID:
 1GCM920535
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Rockv Flats Closure Project Baseline Cost and Basis of Estimate Project WBS Filter Activity Filter

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Starts In FY

Line Item 0010 - Sampling and Analysis Plan

BOE

The Sampling and Analysis Plan directs the collection of field data. The objective of the Sampling and Analysis Plan is to delineate the specific data needs, sampling and analysis requirements, data handling procedures, and associated Quality Assurance/Quality Control requirements for the sediment removal at the ponds. This task is expected to be completed by Site Personnel.

Estimators Experience - 10 years experience estimating similar tasks Experience Item Desc - preparation of the sampling and analysis plan Breakdown of Cost Data:

Item: Prepare SAP address DOE and regulatory agency comments. The estimate is based on other limited sampling projects such as that for IHSS 118.1.

Units: hours Unit Cost: 340

Unit Cost Adjustment Factor: none

Revised Unit Hours: 340

E050 Environmental Engineer 2.5 Weeks for document development

M010 Project Management 10% oversight of project
P090 Industrial Hygienist 1 week for HASP development

P080 Health Physicist 1 week for ALARA review and RWP G010 Administrative 40 hours Secretarial support for docu

G010 Administrative 40 hours Secretarial support for document prep and distribution E110 Quality Control Engineers 40 hours for document review and comment resolution P070 Project Controls 40 hours planning and scheduling support based on similar projects.

Total = 340 hours

Basis for adjustment: None

Resources

Cost Element	Skill	Department	Curve	Ouantity Units
750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	100.00 Hours
Factors 100 hrs				
750 STRAIGHT TIME BASE	G010 ADMINISTRATIVE ASSISTANTS	R100S RMRS Salaried	Linear	40.00 Hours
Factors 40 hrs				
750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GRO	OUP R100S RMRS Salaried	Linear	40.00 Hours
Factors 40 hrs				
750 STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNERS	S AN R100S RMRS Salaried	Linear	40.00 Hours
Factors 40 hrs				
750 STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear	40.00 Hours
Factors 40 hrs				
750 STRAIGHT TIME BASE	P090 INDUSTRIAL HYGIENISTS	R100S RMRS Salaried	Linear	40.00 Hours
Factors 40 hrs				
750 STRAIGHT TIME BASE	S020 ENVIRONMENTAL SCIENTISTS	R100S RMRS Salaried	Linear	40.00 Hours
Factors 40 hrs				

Line Item 0025 - Health and Safety Plan

BOE

The subcontractor working on the pond sediment removal project must develop a Health and Safety Plan acceptable to the Site. This activity addresses the Health and Safety Plan for sediment removal at Ponds B-1, B-2, and B-3. It was assumed that only one HASP would be sufficient to perform similar work in these ponds. This task will be performed by subcontract personnel with Site input.

Historical Data Source - Successful subcontract bid for the East Trenches Plume project. Breakdown of Historical Data:

Item - health and safety plan

Units - 1

Unit Cost - \$7,200 (from successful bidder)

Unit Cost Adjustment factor - none

Revised Unit Cost -Basis for adjustment -

40 hours IH support and 10 hours rad engineer support are required based on previous experience with the East Trenches Plume Project.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

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WBS No: 1GAB0201 Activity ID: 1GCM920535

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Baseline Devl Proiect WBS Filter Activity Filter

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Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	10.00	Hours
	Factors	10 hrs							
	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	40.00	Hours
_	Factors	40 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	6.089.47	Dollars

Factors 7200

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0.84576 [SYS 061400] .84576000 - System

2 Schodule Risk

Starts In FY

Line Item 0050 - Field Implementation Plan

BOE

The Field Implementation Plan will delineate the placement of any soil stockpile, the rip-rap stockpile, and will identify the disposition process for any accumulated water. This activity will develop the Plan for removal of sediment in Ponds B-1, B-2, and B-3.

Historical Data Source - Successful Bid for East Trenches Plume Project

Description: Pond B-1 Sediment Removal

Item Desc - Field Implementation Plan

Breakdown of Historical Data:

Item - FIP Units - 1

Unit Cost - \$17,400 based on the subcontract bid.

Unit Cost Adjustment factor - none

Revised Unit Cost -

Basis for adjustment -

40 hours environmental engineer and 20 hours of project management support for document reviews, issue resolution will be required based on the East Trenches Plume project.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
Factor	s 40 h							
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	20.00	Hours
Factor	s 20 hrs							
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	14.716.22	Dollars
Factor	s 17400 d							

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,840.43	Dollars
	Factors	1840.43 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3,692.06	Dollars

3692.06 Dollars Factors

ACTIVITY ID. 100	Description. 1 ond B-1 Gedinient Kemove	li .						Cost Risk	Z Schedule I	ilisk 5		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0010	Pre- and Post-Remediation Sampling	1.00	each	VQ	0	0	0	55.083	0	55.083	0	55.083
0030	Excavation Pond B-1	1.00	each	EE	4.252	4.252	92.520	155.197	0	247.717	31.753	279.469
0050	Waste Handling Pond B-1	1.00	each	EE	340	340	10.050	84.576	0	94.626	3.449	98.076
070	Water control	1.00	each	EE	0	0	0	42.288	0	42.288	0	42.288
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	226.432	226.432	0	226.432
	Tot	al for Activi	ty 1GCM920)545:		4.592	102.570	337.144	226.432	666.146	35.202	701.348

Line Item 0010 - Pre- and Post-Remediation Sampling

BOE

This activity includes pre, post and in-process sampling the pond sediments as required. This task also includes the waste acceptance sampling required for disposal. Sampling will take place using hand held equipment and the Site sampling team.

Vendor Name - KH ASD

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Cost Rick

WBS No: 1GAB0201 Activity ID: 1GCM920545

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY

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Vendor Quote - costs provided during baseline development
Ouote Received by - A. Primrose
Date Received - 4/28/00
Item being quoted - sample costs
   230 sample bottles at $7 each = $1,610
    Shipping at $42 for 10 bottles. There will be 23 groups of 10 bottles times $42 = $966
   60 rad screens at $32 each = $1,920
   60 isotopics at $590 each = $35,400
   20 VOCs at $280 each = $5,600
   20 metals at $345 each = $6,950
   10 PCBs at $150 each = $1,500
   Data validation will be done for 3 sets of 20 samples each
     1 VOC Data validation cost for > 11 samples at $246 each = $246
     3 rad data validation costs for >11 samples at $312 each = $936
Sampling - Rad (base cost per day) $1,000. 10 days of sampling = $10,000
Total Cost $65,128
Availability - yes
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.
```

Resources

es Cost Element Skill		Skill		Department	Curve	Quantity	Units		
	A5H	SUBCONTRACTED SRVS	0000	NONE	K267S	Analytical Laboratory Services	Linear	55.082.66	Dollars

Factors 65128 \$

Line Item 0030 - Excavation -- Pond B-1

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BOE

The existing pump trucks will be used to excavate the pond sediment after the water is drained from the pond. Assume that 1.5 roll-offs per day of sediment can be removed per day and stockpiled per day. 43 roll-offs are required for this pond, for approximately 30 days effort with 4 days weather delay. Each day is a 10 hour day. Assume that the sediment to be removed is within 2 feet of the surface and unconsolidated. No additional equipment will be required to break up the sediment for removal. Assume 6 KH laborers will be required each day to guide the hoses and perform other tasks. 3 KH teamsters will be required to operate trucks and pumpers. One subcontract Project Manager and one field supervisor will be required

KH Remediation Laborers 34 days * 10 hours/day * 6 people = 2,040 hours
KH Remediation Operators 34 days * 10 hours/day * 3 people = 1,020 hours
KH RCT support 34 days * 10 hours/day * 2 people = 680 hours

Subcontract Project Manager = \$75/hr*34*10 = \$25,500

Subcontract Field Supervisor = \$60/hr*34*10 = \$20,400

Subcontract Health & Safety = \$60/hr*34*10 = \$20,400

Subcontract Pumper truck operators = 3 at \$60/hr*34*10 = \$61,200

Materials and fuel = \$50,000

Materials and fuel = \$50,000 Truck leasing (3 at \$2,000 each) = \$6,000

Total A5h = \$183,500

KH/RMRS oversight includes a full time engineer, 1/4 time H&S oversight, 1/4 time Rad Engineering support.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

S Cost Element	Skill	Dominion	G	Occupitos Hairo
		Department	Curve	Ouantity Units
750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	340.00 Hours
Factors 340 hrs				
750 STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear	86.00 Hours
Factors 86 Hours				
750 STRAIGHT TIME BASE	P090 INDUSTRIAL HYGIENISTS	R100S RMRS Salaried	Linear	86.00 Hours
Factors 86 hrs				
750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIG	KG10H Remediation Steelworkers	Linear	680.00 Hours
Factors 680 hrs				
750 STRAIGHT TIME BASE	T060 D&D HAZ REDUC TECH / RISK RED	KG10H Remediation Steelworkers	Linear	3.060.00 Hours
Factors 3060 Hours				

WBS No: 1GAB0201 Baseline Devl Proiect **Rocky Flats Closure Project** Activity ID: 1GCM920545 WBS Filter 1GAB **Baseline Cost and Basis of Estimate** Activity Filter

Starts In FY A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs 155.197.00 Dollars Linear

Factors 183500 \$

0.84576 [SYS 061400] .84576000 - System

Line Item 0050 - Waste Handling -- Pond B-1

34 days*10 hours/day = 340 hours for a full-time waste generator on the project to perform the following tasks.

- 1) Preparing Waste Acceptance Forms
- 2) Performing Waste Acceptance Sampling
- 3) Inspection of stored wastes until shipment

It is assumed that the sediments will need to be dewatered prior to dispositioning. \$100,000 as an A5H cost has been included in this estimate as a placeholder until the dewatering methodology has been indentified and costed. This may be a simple centrifuge, or press.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

BOE

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	340.00	Hours
_	Factors	340 hours							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	84.576.00	Dollars

100000 d Factors

0.84576 [SYS 061400] .84576000 - System Line Item 070 - Water control

BOE

A small dam or containment is needed upgradient of the B-1 Pond to divert incoming water during the construction period. A sump pump will be required along with flexible piping to bypass the B-1 Pond and direct water to B-2 Pond. Estimated cost is \$50,000 for the engineering design, installation and removal of this structure.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resourc

rces	Cost Element	Skill	Department	Curve	<i>Ouantity</i>	Units
	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	42.288.00 D	ollars

Factors 50000 d

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es	Cost Element		Skill			Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	154,868.10	Dollars
	Factors	154868 Dollars							
		ESCALATION	0000	NONE	ZDEPT	No Department	Linear	71,564.34	Dollars

71564.3 Dollars

Activ

tivity ID: 1GC	M920560 Description: Pond B-1 Site Restoration							Cost Risk	4 Schedule R	Risk 4	
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden C

Line Item	Description	Quantity Un	uts BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
			Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0040	Site Restoration Pond B-1	1.00 each	HC	170	170	4.862	13.532	0	18.394	1.692	20.086
SYS	Contingency And Escalation	1.00 ea	EE	0	0	0	0	11.081	11.081	0	11.081
	То	tal for Activity 1GC	CM920560:		170	4.862	13.532	11.081	29.475	1.692	31.167

Line Item 0040 - Site Restoration -- Pond B-1

BOE

Site Restoration involves Regrading and Revegetation

Based on similar projects, this effort will require 80 hours Environmental Scientists, 60 hours civil engineers, 30 hours of ecologists (other professionals), \$16,000 in subcontracted services.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E020	CIVIL ENGINEERS	R100S	RMRS Salaried	Linear	60.00	Hours
_	Factors	60 hrs							
	750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	30.00	Hours
	Factors	30 hrs							

WBS No: 1GAB0201 Baseline Devl Proiect Rocky Flats Closure Project 1GCM920560 1GAB Activity ID: WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 750 STRAIGHT TIME BASE S020 ENVIRONMENTAL SCIENTISTS R100S RMRS Salaried 80.00 Hours Linear 80 hrs A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs 13.532.16 Dollars Linear 16000 \$ Factors 0.84576 [SYS 061400] .84576000 - System Line Item SYS - Contingency And Escalation BOE Resources Cost Element Skill Curve Units Department Quantity CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 7.969.19 Dollars Factors 7969.19 Dollars ESC ESCALATION 0000 NONE 3.111.63 Dollars ZDEPT No Department Linear 3111.63 Dollars Factors Activity ID: 1GCM920570 Description: B Ponds Project Management Cost Risk 1 Schedule Risk BOELabor Labor Hours Labor Cost Materials/ Sub Total Prime Line Item Description Quantity Units Contingency Burden Cost Total Cost Type Hours/Unit Total Cost & Escalation Cost 0010 Project Management 1.00 each HC 2.740 2.740 70.987 n 70.987 22.208 93.195 FF SYS Contingency And Escalation 1.00 ea n 0 0 30.176 30.176 0 30.176 Total for Activity 1GCM920570: 2.740 70.987 0 30.176 101.163 22.208 123.371 Line Item 0010 - Project Management The following basis of estimate provides a description of hours/dollars necessary to perform budget preparation and management for the entire WADlet. Hours BOE and dollars budgeted for this ongoing activity item are based on actual values needed to perform same activities during FY98 and FY99. A full time project manager is required for this project. 1820 hours per year. Based on previous projects, a 1/4 time budget analyst/scheduler is required for budget/schedule tracking = 460 hours Based on previous projects, a 1/4 time secretary is required for project support = 460 hours Resources Cost Element Skill Department Curve Quantity Units 750 STRAIGHT TIME BASE G010 ADMINISTRATIVE ASSISTANTS R100S RMRS Salaried Linear 460.00 Hours 460 hrs M010 FOREMEN / TEAM LEADS / GROUP R100S RMRS Salaried 750 STRAIGHT TIME BASE 1.820.00 Hours Linear 1820 hrs P070 COST ESTIMATORS PLANNERS AN R100S RMRS Salaried 460.00 Hours 750 STRAIGHT TIME BASE Linear 460 Factors hrs Line Item SYS - Contingency And Escalation BOE Cost Element Resources Units ZDEPT No Department CON CONTINGENCY 0000 NONE 18,592.83 Dollars Linear 18592.8 Dollars ZDEPT No Department ESC ESCALATION 0000 NONE Linear 11.582.82 Dollars 11582.8 Dollars WBS No: 1GAB0202 Group NE-2 (Trench 7) Activity ID: 1GNE200105 Description: T-7 Project Scoping - IHSS Group NE-2 Cost Risk 2 Schedule Risk 2 Contingency Line Item Description **Ouantity** Units BOELabor Labor Hours Labor Cost Materials/ Sub Total Prime Burden Cost Total Cost Hours/Unit & Escalation Type Total Cost Cost 1.00 each EE 80 2.365 9.878 12.243 835 10 Scopina 80 0 13.078 SYS Contingency And Escalation 1.00 ea FF 1.975 1.975 0 1.975 Λ 0 Total for Activity 1GNE200105: 80 2.365 9.878 1.975 14.218 835 15.053

Estimators Experience - Estimator has entertained numerous SAP scoping questions and issue delivered by regulators

Line Item 10 - Scoping

Experience Item Desc - 903 Pad SAP development

Breakdown of Cost Data:

Ttem - lot

BOE

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Rocky Flats Closure Project
Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY

Units - site hours, subcontractor dollars

Unit Cost - 80 site hours, \$11,680 Subcontractor dollars

Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment -

Assumes 1 site FTE and 1 Subcontractor FTE (engineer level at \$73/hour) to complete scoping activity

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

WBS No:

Activity ID:

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00	Hours
	Factors	80 Hours							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	9.878.48	Dollars

Factors 11680 Dollars Subcontactor

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

1GAB0202

1GNE200105

BOE

Resources

es		Cost Element	Skill			Department	Curve	<i>Ouantity</i>	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.363.67	Dollars
	Factors	1363.67 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	611.16	Dollars

Factors 611.156 Dollars

Activity ID: 1GNE200110

ription: T-7 PAM Prep & Internal Rev - IHSS Group NE-2	Cost Risk	4 Schedule Risk
--	-----------	-----------------

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	PAM Preperation	1.00 each E		EE	320	320	9.893	42.288	0	52.181	3,492	55.673
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8.589	8.589	0	8.589
	Total for Activity 1GNE200110:							42.288	8.589	60.770	3.492	64.262

Line Item 0100 - PAM Preperation

BOE

Estimators Experience - Estimator hasexperience preparing an IM/IRA

Experience Item Desc - 903 Drum Storage IM/IRA

Breakdown of Cost Data:

Item - Site personnel hours, Subcontract dollars

Units - hours, dollars

Unit Cost - 320 Site hours, \$50,000 Subcontractor Dollars

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

Site hours

Estimate provides for 2.00 FTE for one month spread over the duration of the PAM (2 months). Includes K-H management, a Environmental Engineer and a compliance specialist.

Subcontract Dollars

Two subcontract FTE (engineer level at \$73/hour) full time for a peroid of two months. One admin support for 100 hours at \$32/hour

2 x 160 x 40 x \$73 = \$46,720 1 x 100 x \$32 = 3,200

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	160.00	Hours
	Factors	160 Hours		Envir Enginner					
	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	K266S	Envir. Safetv. Health & Quality	Linear	160.00	Hours
	Factors	160 Hours		Compliance Specialist (ARA	ARs)				

WBS No: 1GAB0202 Baseline Devl Proiect **Rocky Flats Closure Project** Activity ID: 1GNE200110 WBS Filter 1GAB **Baseline Cost and Basis of Estimate** Activity Filter

Starts In FY A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs 42.288.00 Dollars Linear

Factors 50000 Dollars Subcontractor

Line Item SYS - Contingency And Escalation

Resources

es	Cost Element	Skill	Department	Curve	Ouantity Units
CC	ON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	5.987.27 Dollars
Fact	ors 5987.27 Dollars				
ES		0000 NONE	ZDEPT No Department	Linear	2.601.68 Dollars

Factors 2601.68 Dollars

Description: T-7 Planning & Document Preparation Cost Risk 3 Schedule Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Site Resource Support for Documentation	2.00 ea	ach	НС	1.600	3.200	80.506	0	0	80.506	28.161	108.667
20	Subcontractor Costs	1.00 ea	ach	EE	0	0	0	325.990	0	325.990	0	325.990
SYS	Contingency And Escalation	1.00 ea	а	EE	0	0	0	0	86.228	86.228	0	86.228
	Tot	al for Activity	1GNE20013	30:		3.200	80.506	325.990	86.228	492.723	28.161	520.885

Line Item 10 - Site Resource Support for Documentation

BOE

Estimator's Experience - Estimator interviewed Trench 1 field supervisor to identify Site resources required to complete documentation requirements Experience Item Desc - T-1 Site Documentation

Breakdown of Cost Data:

Item - Labor hours

Units - Lot

Unit Cost - 3,200 Site Labor Hours (w months of site labor required)

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

This work will be conducted primarily by subcontract personnel with site support. This basis of estimate assumes site personnel will be on the project for two months, the initial planning month and one additional month to review and provide input on draft documents.

Resources

Cost Element	Skill	Department	Curve	Quantity Units
750 STRAIGHT TIME BASE	E080 NUCLEAR (CRITICALITY) ENGINEER R1		Linear	160.00 Hours
Factors 160 Hours	1 crit engineer			1001001110010
750 STRAIGHT TIME BASE	G040 SECRETARIES R1	00S RMRS Salaried	Linear	160.00 Hours
Factors 160 Hours	1 Admin			
750 STRAIGHT TIME BASE	L090 GENERAL LABORER KG	Remediation Steelworkers	Linear	160.00 Hours
Factors 160 Hours	1 laborer			
750 STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS R1	00S RMRS Salaried	Linear	160.00 Hours
Factors 160 Hours	1 Rad Engineer			
750 STRAIGHT TIME BASE	S020 ENVIRONMENTAL SCIENTISTS R1	00S RMRS Salaried	Linear	160.00 Hours
Factors 160 Hours	1 Env. Scientist			T
750 STRAIGHT TIME BASE	S030 IGEOLOGISTS R1	00S RMRS Salaried	Linear	160.00 Hours
Factors 160 Hours	1 aeoloaist		T.	T T
750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIGI KG	S10H Remediation Steelworkers	Linear	320.00 Hours
Factors 160 Hours	2 RCTs			
750 STRAIGHT TIME BASE	T060 D&D HAZ REDUC TECH / RISK RED KG	Remediation Steelworkers	Linear	320.00 Hours
Factors 160 Hours	2 Heavy equipment operators			

Line Item 20 - Subcontractor Costs

BOE

Estimator's Experience - Estimator inteviewed Trench 1 field supervisor to identify Subcontractor resouces and time requirements to complete documentation

requriedments

Experience Item Desc - T-1 Site Documentation

Breakdown of Cost Data:

Item -Subcontractor costs Units - Lot

Unit Cost - \$385,440 subcontract dollars

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WBS No: 1GAB0202 Activity ID: 1GNE200130

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Activity Filter Baseline Devl

1GAB

Starts In FY *

Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment -

T-1 cost report reported 5,413.13 Site personnel hours for planning and \$230,000 for subcontractor costs for a total of approximately \$500,000 T-1 was planned by site personnel.

The subcontractor costs were estimated by assuming 5.5 FTEs (engineer level) would be required for 6 month duration (5280 hours) totaling \$385,440 at

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resource

ces	Cost Element								Department		Curve	Quantity	Units
	A5H	SUBCON	TRACTED SRVS	0000	NONE	K2	265S	ER Prog	rams		Linear	325,989.80	Dollars
I	actors	73	Dollars		5.5	FTEs		8	hours per day	20	days per mo	nth	
		6	months							0.845	76 [SYS 06140	01 .84576000 - 3	System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	59.981.26	Dollars
	Factors	59981.3 Dollars							
	FSC	ESCALATION	0000	NONE	ZDFPT	No Department	Linear	26 246 73	Dollars

26246.7 Dollars

Activity ID: 1GNF200150

Description: T-7 Procurement

Cost Rick

3 Schedule Risk

ACTIVITY ID. TOTA	Description. 1-7 i loculement						Cost Risk 5 Schedille Risk 5					
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	RFP Review and Site Procurement	1.00	each		360	360	11.446	0	0	11.446	3.960	15.406
20	RFP Preperation	1.00	each		0	0	0	43.134	0	43.134	0	43.134
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	16.565	16.565	0	16.565
	Tot	al for Activi	ty 1GNE200	150:		360	11.446	43.134	16.565	71.145	3.960	75.105

Line Item 10 - RFP Review and Site Procurement

BOE

Estimators Experience - Estimator has 6 years experience preparing and bidding on RFPs

Experience Item Desc - 903 Pad HPGe Characterization SOW

Breakdown of Cost Data:

Item - Site resources for review and support preparation of SOW

Units - lot

Unit Cost - 360 Hours

Unit Cost Adjustment factor -

Revised Unit Cost

Basis for adjustment - Comprehensive SOW/RFP for remediation of radiological facility; Trench 7.

Resources

s		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E020	CIVIL ENGINEERS	K107S	Eng. Envir. Safety & Quality Programs	Linear	40.00	Hours
I	Factors	40 Hours							
	750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	K107S	Eng, Envir, Safety & Quality Programs	Linear	40.00	Hours
1	actors	40 Hours				,			
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K238S	Radiation Protection	Linear	40.00	Hours
1	actors	40 Hours				,			
	750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	K265S	ER Programs	Linear	40.00	Hours
1	actors	40 Hours				,			
	750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K266S	Envir, Safety, Health & Quality	Linear	40.00	Hours
1	actors	40 Hours				,			
	750	STRAIGHT TIME BASE	P030	BUYERS PROCUREMENT AND CON	K264S	Procurement Systems	Linear	160.00	Hours
I	actors	160 Hours							

Line Item 20 - RFP Preperation

BOE

Estimators Experience - Estimator interviewed T-1 personnel who performed numerous subcontract support procurement and estimated resources required to complete RFP

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 WBS No:
 1GAB0202

 Activity ID:
 1GNE200150

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

0.84576 [SYS 061400] .84576000 - System

Experience Item Desc - T-1 Subcontractor Procurements

Item - Subcontract dollars

Units - lot

Unit Cost - 51,000 Dollars Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - Comprehensive SOW/RFP for remediation of radiological facility, 903 Pad, 903 Lip Area and Americium Zone, and East Firing Range and Target Area.

Assumes 2 Engineers FTE for two months spread over the activity duration of 60 days. Also provides 160 of administrative support.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	43.133.76	Dollars

Factors 51000 Dollars

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
C	ON CONTI	INGENCY	0000	NONE	ZDEPT	No Department	Linear	12.075.93	Dollars
Fac	tors 120	75.9 Dollars							
		LATION	0000	NONE	ZDEPT	No Department	Linear	4.489.16	Dollars

Factors 4489.16 Dollars

Activity ID: 1GNE200160 Description: T-7 Field Prep/Mobilization/Readiness Assessment

Cost Risk	2	Schedule Risk	3
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Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Site Resource Hours	4.00	each	EE	6,680	26,720	771,909	0	0	771,909	267,080	1,038,989
20	Subscontractor Dollars & Supplies	1.00	each	EE	0	0	0	992,311	0	992,311	0	992,311
30	Leases	4.00	each	EE	0	0	0	494,320	0	494,320	0	494,320
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	707,229	707,229	0	707,229
	Tot	al for Activ	tv 1GNE200	160:		26.720	771.909	1.486.631	707.229	2.965.769	267.080	3.232.849

Line Item 10 - Site Resource Hours

BOE

Estimators Experience - Estimator interviewed T-1 Field Supervisior to determine resource needs for a excavation activity using site resources Experience Item Desc - T-1 Excavation Mob (2 months) and readiness Assessment (1.5 months)

Breakdown of Cost Data: Item - labor hours

Units - hours

Unit Cost - 6,680 hours per month (4 month activity duration)

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

Estimate based on labor resources assumed to be the same as those required to perform T-1 excavation.

Resources

s	Cost Element		Skill		Department	Curve	Ouantity	Units
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	R100S	RMRS Salaried	Linear	160.00	Hours
Factors	160 hours	•	1 Crit Engineer for AB					
750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K107S	Eng. Envir. Safety & Quality Programs	Linear	160.00	Hours
Factors	160 Hours		1 QA					
750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	480.00	Hours
Factors	160 Hours		3 Managers Oversight					
750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	160.00	Hours
Factors	160 Hours		1 Rad Engineer					
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K107S	Eng. Envir. Safety & Quality Programs	Linear	160.00	Hours
Factors	160 Hours		1 Safety					

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WBS No: 1GAB0202 Rockv Flats Closure Proiect Proiect Baseline Devl
Activity ID: 1GNE200160 Baseline Cost and Basis of Estimate

		Baccimic Coct an	a Baolo of Edilliato	Activity Filter *		Starts In FY *
750 STRAIGHT TIME BASE	T050 RADIATION	CONTROL TECHNOLIGI	KG10H Remediation Steelworkers		Linear	2.080.00 Hours
Factors 160 Hours	13 F	RCTs	-			
750 STRAIGHT TIME BASE	T060 D&D HAZ RI	EDUC TECH / RISK RED	KG10H Remediation Steelworkers		Linear	480.00 Hours
Factors 40 Hours	12	D&D Worker OT				
751 OVERTIME BASE & PRE.	M010 FOREMEN /	TEAM LEADS / GROUP	R100S RMRS Salaried		Linear	80.00 Hours
Factors 40 hours	2 F	Forman OT				
751 OVERTIME BASE & PRE.	M010 FOREMEN /	TEAM LEADS / GROUP	R100S RMRS Salaried		Linear	320.00 Hours
Factors 160 hours	2 F	oreman				
751 OVERTIME BASE & PRE.	M040 MANAGERS	S (GRADE 64 - 68)	R100S RMRS Salaried		Linear	120.00 Hours
Factors 40 Hours	3 N	Managers OT				
751 OVERTIME BASE & PRE.	P080 HEALTH PH	IYSICISTS	R100S RMRS Salaried		Linear	40.00 Hours
Factors 40 hours	<u>, 1 F</u>	Rad Eng OT				
751 OVERTIME BASE & PRE.	T050 RADIATION	CONTROL TECHNOLIGI	KG10H Remediation Steelworkers		Linear	520.00 Hours
Factors 40 Hours	13 F	RCT Overtime				
751 OVERTIME BASE & PRE.	T060 D&D HAZ RI	EDUC TECH / RISK RED	KG10H Remediation Steelworkers		Linear	1.920.00 Hours
Factors 160 Hours	12 E	D&D worker				

Line Item 20 - Subscontractor Dollars & Supplies

BOE

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine subcontractor support requirements during remediation Experience Item Desc - T-1 Remediation
Breakdown of Cost Data:

Item - Subcontracted Services
Units - month
Unit Cost - \$180,000 per month (4 month activity duration)
Unit Cost Adjustment factor Revised Unit Cost -

Assumes:

1 Project Manager 2 Project Supervisors 2 HSS Specialist 3 Waste Generators 1 Field Supervisor 1 Technician/Runner 2 Geologists to implement SAP

Basis for adjustment -

205 hours per person (12 personnel) per month at average of \$73 per hour = \$180,000 per month for 4 month duration = \$720,000

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine subcontractor support requirements during remediation Experience Item Desc - T-1 Remediation Breakdown of Cost Data:

 ${\tt Item-Materials, Subcontract\ Dollars\ for\ weather\ Structure\ setup} \\ {\tt Units-Lot}$

Units - Lot
Unit Cost - \$256,500 Materials, \$150,000 Subcontract dollars

Unit Cost Adjustment factor -1

Revised Unit Cost -Basis for adjustment -

The material costs include weather structure construction, miscellaneous material and supplies costs, soft sided waste packages, lifting device for a total of \$256,500.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

es		Cost Element			Skill		Department	Curve	Quantity	Units
	A5C	SUPPLIES	0000	NONE		K265S	ER Programs	Linear	200.000.00	Dollars
_	Factors	200000 Dollars		1	Supplies					
	A5C	SUPPLIES	0000	NONE		K265S	ER Programs	Linear	28,500.00	Dollars
	Factors	380 Dollars		75	Soft Side Waste Packages					

BS No:	1GAB0202			Rockv Flats	Closur	e Proiect	Proiect	Baseline Devl	
tivity ID:	1GNE200160			Baseline Cost a	nd Basis	of Estimate	WBS Filter	1GAB	Contain In EV *
	A5C SUPPLIES	0000	NONE		KOCEC	ER Programs	Activity Filter	Lincor	Starts In FY * 28.000.00 Dollars
	· · · · · · · · · · · · · · · · · · ·		INONE 4	Coft Cide Wests Dook Liftin	•	ER Ploulailis		Linear	28.000.00 D0 lars
	Factors 7000 Dollars	0000		Soft Side Waste Pack Lifting		ER Programs		Linner	126.864.00 Dollars
	A5H SUBCONTRACTED SRVS	0000	INONE	\\\		ER Plodiallis		Linear	126.664.001D01lats
	Factors 150000 Dollars		1	Weather Structure Constru	ctions			0.04570 (0)/0	0044001 04570000 0
	A SUL CUID CONTRA CEED CONTR				1/00=0				0614001 .84576000 - Svstem
	A5H SUBCONTRACTED SRVS	0000	NONE			ER Programs		Linear	608.947.20 Dollars
	Factors 180000 Dollars		4	months subcontract person	nel				
								0.84576 [SYS	0614001 .84576000 - System
ne Item 30 -									
BOE	Estimators Experience - Estimator Experience Item Desc - Trench 1 re Breakdown of Cost Data: Item - equipment rentals Units - month Unit Cost - \$123,580 per month Unit Cost Adjustment factor - Revised Unit Cost - Basis for adjustment -	ental equ	ipment		and pro	ect controls suppo	rt to obatin r	ental equipmien	t estimates
Resources				Skill		Department		Curve	Quantity Units
	A5C SUPPLIES	0000	NONE	DIME	K265S	ER Programs		Linear	20.400.00 Dollars
	Factors 17 Dollars		30	Men PPE	, 112000	2 Suits per Day		•	per month
	A5L RENTALS	0000	NONE	WICHTIE	K265S	ER Programs		Linear	14.000.00 Dollars
	Factors 14000 Dollars		1	Excavator	112000	LICITOGIAIIIS		Lilleai	14.000.00[D0lla13
	A5L RENTALS	0000	NONE	LXCAVAIOI	Vaces	ER Programs		Linear	9.000.00 Dollars
			INCINE	Loader	N2000	ER FIOGRAFIES		Lilleal	9.000.00ID0IIaIS
		0000	NONE	Loadel	KOCEC	ER Programs		Linner	5 000 00 D-II
	A5L RENTALS	0000		- .	K265S	ER Programs		Linear	5.000.00Dollars
	Factors 5000 Dollars		1	Water Truck					
	A5L RENTALS	0000	NONE		K265S	ER Programs		Linear	2.000.00 Dollars
	Factors 500 Dollars		- 4	trailers	1			1	
	A5L RENTALS	0000	NONE		K265S	ER Programs		Linear	2.500.00 Dollars
	Factors 2500 Dollars		_1	Fork Lift	1			T	
	A5L RENTALS	0000	NONE		K265S	ER Programs		Linear	22.000.00 Dollars
	Factors 11000 Dollars		_ 2	Breathing Air Compressors					
	A5L RENTALS	0000	NONE		K265S	ER Programs		Linear	1.000.00 Dollars
	Factors 1000 Dollars		_ 1	Fence					
	A5L RENTALS	0000	NONE		K265S	ER Programs		Linear	80.00 Dollars
	Factors 20 Dollars		4	Portoliets					
	A5L RENTALS	0000	NONE		K265S	ER Programs		Linear	40.000.00 Dollars
	Factors 40000 Dollars		1	H&S Support Equipment				=	. ISTOSTISSIES IIIAIS
	A5N FUEL & UTILITIES	0000	NONE	Same of Landing High	K265S	ER Programs		Linear	2.000.00 Dollars
	7.C.T II OLE G OTTETTEO		4	Fuel	112000	EIV I IOUIUIIIO		LIIICAI	2.000.0010011013
	Factors 2000 Dollars			1 1/11/41		ER Programs		1.	5.600.00 Dollars
	Factors 2000 Dollars	0000	NONE		K2659			l incar	
	A5R MISC EXPENSES	0000	NONE	Men Lunches	K265S			Linear	5.600.00IDOllars
o Itam SVS	A5R MISC EXPENSES Factors 8 Dollars	0000	NONE 35	Men Lunches	K265S	20 days per month	l	Linear	5.600.00 Dollars
	A5R MISC EXPENSES	0000		Men Lunches	K265S		ı	<u>Linear</u>	5.600.00 Dollars
BOE	A5R MISC EXPENSES Factors 8 Dollars S - Contingency And Escalation	0000			K265S	20 davs per month			
BOE	A5R MISC EXPENSES Factors 8 Dollars 6 - Contingency And Escalation Cost Element		35	Men Lunches		20 days per month		Curve	Quantity Units
e Item SYS BOE Resources	A5R MISC EXPENSES Factors 8 Dollars 6 - Contingency And Escalation Cost Element CON CONTINGENCY					20 davs per month			
BOE	A5R MISC EXPENSES Factors 8 Dollars 6 - Contingency And Escalation Cost Element CON CONTINGENCY Factors 513551 Dollars	0000	35 NONE		ZDEPT	20 davs per month **Department** No Department**		Curve Linear	Ouantity Units 513.550.70 Dollars
OE	A5R MISC EXPENSES Factors 8 Dollars 6 - Contingency And Escalation Cost Element CON CONTINGENCY Factors 513551 Dollars ESC ESCALATION	0000	35		ZDEPT	20 days per month		Curve	Quantity Units
OE esources	A5R MISC EXPENSES Factors 8 Dollars 6 - Contingency And Escalation Cost Element CON CONTINGENCY Factors 513551 Dollars	0000	NONE NONE	Skill	ZDEPT	20 davs per month **Department** No Department**	Cost Risk	Curve Linear	Quantity Units 513.550.70 Dollars 193.677.90 Dollars
BOE Resources	A5R MISC EXPENSES Factors 8 Dollars 6 - Contingency And Escalation Cost Element CON CONTINGENCY Factors 513551 Dollars ESC ESCALATION Factors 193678 Dollars 1GNE200180 Description: T-7 Ex	0000	NONE NONE	Skill	ZDEPT	20 davs per month **Department** No Department No Department		Curve Linear Linear 4 Schedule Ris	Ouanity Units 513.550.70 Dollars 193.677.90 Dollars

1GAB0202
1GNE200180

Rockv Flats Closure Proiect
Baseline Cost and Basis of Estimate

Proiect
WBS Filter
1GAB
1GAB
4ctivity Filter
**

		-	aseille Cost	aliu Dasis Ul	ESumate	Act	ivity Filter *		Starts In FY *			
10	Site resource Hours	4.00	each HC	6.680	26.720	771.909	0	0	771.909	220.031	991.940	
20	Subcontractor Costs	1.00	each HC	0	0	0	1.611.925	0	1.611.925	0	1.611.925	
30	Leases	4.00	each EE	0	0	0	494.320	0	494.320	0	494.320	
SYS	Contingency And Escalation	1.00	ea EE	0	0	0	0	536.895	536.895	0	536.895	
			26.720	771.909	2.106.245	536.895	3.415.048	220.031	3.635.079			

Line Item 10 - Site resource Hours

BOE

WBS No:

Activity ID:

Estimators Experience - Estimator interviewed T-1 Field Supervisior to determine resource needs for a excavation activity using site resources Experience Item Desc - T-1 Excavation excavation

Breakdown of Cost Data: Item - labor hours

Units - hours

Unit Cost - 6,680 hours per month (4 month activity duration)

Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment -

Estimate based on labor resources assumed to be the same as those required to perform T-1 excavation.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	R100S	RMRS Salaried	Linear	160.00 Hours
	Factors	160 hours		1 Crit Engineer for AB			1	
	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K107S	Eng. Envir. Safety & Quality Programs	Linear	160.00 Hours
í	Factors	160 Hours		_ 1 QA			I	
	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	480.00 Hours
í	Factors	160 Hours		3 Managers Oversight			I	
	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	160.00 Hours
í	Factors	160 Hours		1 Rad Engineer			I	
	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K107S	Eng. Envir. Safety & Quality Programs	Linear	160.00 Hours
1	Factors	160 Hours		1 Safetv			T	
	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	2.080.00 Hours
1	Factors	160 Hours		13 RCTs			T	
	750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KG10H	Remediation Steelworkers	Linear	480.00 Hours
1	Factors	40 Hours		12 D&D Worker OT				
	751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	320.00 Hours
1	Factors	160 hours		2 Foreman				
	751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	80.00 Hours
1	Factors	40 hours		2 Forman OT				
	751	OVERTIME BASE & PRE.	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	120.00 Hours
1	Factors	40 Hours		3 Managers OT				
	751	OVERTIME BASE & PRE.	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	40.00 Hours
1	Factors	40 hours		1 Rad Eng OT				
ļ	751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	520.00 Hours
ı	Factors	40 Hours		13 RCT Overtime				
	751	OVERTIME BASE & PRE.	T060		KG10H	Remediation Steelworkers	Linear	1.920.00 Hours
	Factors	160 Hours		12 D&D worker				

Factors 160 Hours 12 D&D worker

Line Item 20 - Subcontractor Costs

BOE

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine subcontractor support requirements during remediation Experience Item Desc - T-1 Remediation

Breakdown of Cost Data:

Item - Subcontracted Services

Units - month

Unit Cost - \$180,000 per month (4 month activity duration)

Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment -

Assumes:

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WBS No: 1GAB0202 *Activity ID:* 1GNE200180

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

```
1 Project Manager
2 Project Supervisors
2 HSS Specialist
3 Waste Generators
1 Field Supervisor
1 Technician/Runner
2 Geologists to implement SAP
205 hours per person (12 personnel) per month at average of $73 per hour = $180,000 per month for 4 month duration = $720,000
Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine subcontractor support requirements during remediation
Experience Item Desc - T-1 Remediation
Breakdown of Cost Data:
Item -Materials
Units - Lot
Unit Cost - $1,074,650
Unit Cost Adjustment factor -1
Revised Unit Cost -
Basis for adjustment -
The material costs include costs for reclaimation, supplies, weather sturcture teardown, analytical costs, and air sampling costs.
LAB SAMPLES
Confirmation sample
One sample required for base of excavation and two sides for every 10 linear feet of excavated trench. Since trench is 120 feet long assume excavation is
140 feet long. 3 samples X 140/10 + 2 (samples collect at ends of excavation) = 44 * 1.2 (QA samples) = 53 samples for rad, metals, semi-vocs and vocs.
Waste Acceptance
7.4 soft sided bags - assumes 10% of waste packages will require sampling for Envirocare WAC. 83 bags * 0.10 = 8.5 samples *1.2 (QA) = 10.2 samples for Rads,
metal, voc, semi-vocs.
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Air Monitoring group provided a cost estimate for 384K for 18 months on 903 Pad Project which is 21.3k per month. Assuming a 3 month excavation duration air monitoring costs are estimated at 64K.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

				-		-		
s	Cost Element			Skill		Department	Curve	Ouantity Units
A5C	SUPPLIES	0000	NONE		K265S	ER Programs	Linear	130,125.00 Dollars
Factors	15 Dollars yd3		8675	Backfill yd3				
A5C	SUPPLIES	0000	NONE		K265S	ER Programs	Linear	42,000.00 Dollars
Factors	21000 Dollars acre		2	Topsoil + labor per acre				
A5C	SUPPLIES	0000	NONE		K265S	ER Programs	Linear	200.000.00 Dollars
Factors	200000 Dollars		_ 1	Supplies				
A5H	SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs	Linear	608.947.20 Dollars
Factors	180000 Dollars		4	months subcontract personn	el			
		1	1				0.84576 ISYS 06140	01 .84576000 - Svstem
A5H	SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs	Linear	126.864.00 Dollars
Factors	150000 Dollars		1	Weather Structure tear dow	n			
							0.84576 [SYS 06140	01 .84576000 - Svstem
A5H	SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs	Linear	54.044.06 Dollars
Factors	21300 Dollars		3	Air monitoring (cost per mon	th)			
							0.84576 [SYS 06140	01 .84576000 - Svstem

WBS No: 1GAB0202 Rockv Flats Closure Proiect Proiect Baseline Cost and Basis of Estimate Proiect Activity Filter

Activity Filter * Starts In FY *

A5H SUBCONTRACTED SRVS 0000 NONE K267S Analytical Laboratory Services Linear 449.944.30 Dollars

Factors 532000 Dollars 1 Laboratoy Confirmation/WAC/gw/sw

Line Item 30 - Leases

BOE

Estimators Experience - Estimator interviewed Trench 1 field supervisor and project controls support to obtain rental equipment estimates Experience Item Desc - Trench 1 rental equipment

Breakdown of Cost Data: Item - equipment rentals

Units - month

Unit Cost - \$123,580 per month (4 month activity duration)

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - monthly rate provided on resource list

Resources

es		Co	ost Element		Skill		Department	Curve	Ouantity	Units
l	A5C	SUPPLIES		0000 NONE		K265S	ER Programs	Linear	20.400.00	Dollars
r	Factors	17	Dollars	30	Men PPE	,	2 Suits per Dav	20 Davs per mo	nth	
ļ	A5L	RENTALS		0000 NONE		K265S	ER Programs	Linear	2.000.00	Dollars
r	Factors	500	Dollars	4	trailers		1			
ļ	A5L	RENTALS		0000 NONE		K265S	ER Programs	Linear	2.500.00	Dollars
Ē	Factors	2500	Dollars	1	Fork Lift					
ļ	A5L	RENTALS		0000 NONE		K265S	ER Programs	Linear	22.000.00	Dollars
F	Factors	11000	Dollars	2	Breathing Air Compressors			1		
L	A5L	RENTALS		0000 NONE		K265S	ER Programs	Linear	1.000.00	Dollars
Г	Factors	1000	Dollars	1	Fence		T			
L		RENTALS		0000 NONE		K265S	ER Programs	Linear	80.00	Dollars
Г	Factors	20	Dollars	4	Portoliets	1/0050	l=0 0		40.000.00	.
L		RENTALS	D. II	0000 NONE	11000	K265S	ER Programs	Linear	40.000.00	Dollars
ſ	Factors	40000	Dollars	ACCO NONE	H&S Support Equipment	KOCEC	ER Programs	Linner	14.000.00	D-II
L	_	RENTALS 14000	Dollars	0000 NONE	Excavator	K2055	ER Prodrams	Linear	14.000.001	Dollars
ſ	Factors A5L	RENTALS	Dollars	0000 NONE	Excavator	Vaces	ER Programs	Linear	9.000.00	Dollara
L	Factors	9000	Dollars	1	Loader	N2033	LK Flourains	Lilleai	9.000.001	Dullais
ſ	A5L	RENTALS	Dollars	0000 NONE	Loade	K265S	ER Programs	Linear	5.000.00	Dollars
L	Factors	5000	Dollars	1	Water Truck	- NEOOO	TET COMMITTEE	Lilloui	0.000.001	Dollaro
[FUEL & UT		0000 NONE	11441	K265S	ER Programs	Linear	2.000.00	Dollars
	Factors	2000	Dollars	1_	Fuel					
	A5R	MISC EXPE		0000 NONE	·	K265S	ER Programs	Linear	5.600.00	Dollars
	Factors	8	Dollars	35	Men Lunches		20 days per month			

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	242.313.80	Dollars
	Factors	242314 Dollars							
		ESCALATION	0000	NONE	ZDEPT	No Department	Linear	294.580.80	Dollars

Factors 294581 Dollars

Activity ID: 1GNE200240 Description: T-7 Closure Report Preparation - IHSS Grp NE-2

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	Closure Repor Prep	2.00	each	EE	160	320	9.459	44.927	0	54.386	2.667	57.053
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8.209	8.209	0	8.209
	Tot	al for Activi	ty 1GNE200	240:		320	9.459	44.927	8.209	62.595	2.667	65.262

Line Item 0100 - Closure Repor Prep

BOE Estimators Experience - Estimator experienced with the preparation of similar report type documents

Cost Risk

0.84576 [SYS 061400] .84576000 - System

2

2 Schedule Risk

WBS No: 1GAB0202 *Activity ID:* 1GNE200240

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

Experience Item Desc - 903 Pad Characterization report Breakdown of Cost Data: Item - Subcontract dollars Units - lot Unit Cost - \$26,560 Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -Assumes 2 subcontractor FTEs (Engineer level) full time (160 hrs) per month for one month at \$73/hour. One admin assist for 100 hours at \$32/hour $2 \times 160 \times $73 = $23,360$ $1 \times 100 \times $32 = $3,200$ Estimators Experience - Estimator experienced with the preparation of similar report type documents Experience Item Desc - 903 Pad Characterization Report Breakdown of Cost Data: Item - Site resource hours Units - hours Unit Cost - 160 hours Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -Assumes 1 FTE for one month This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

ces		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	160.00	Hours
	Factors	160 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	22.463.38	Dollars

Factors 26560 sub/c support

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2.730.72	Dollars
	Factors	2730.72 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	5.478.06	Dollars
	Factors	5478.06 Dollars							

1 00	1075 CTT CTCC PCHATC											
WBS No: 1GAB	0203 Title: Group NE/NW											
Activity ID: 1GN	ENW0100 Description: Planning IHSS - Group NE/N	1W						Cost Risk	2 Schedule R	Pisk 3		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	SAP/HASP	1.00	each	EE	300	300	9.724	1.421	0	11.145	3.433	14.578
0200	PAM	1.00	each	EE	432	432	12.463	0	0	12.463	4.399	16.863
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	4.748	4.748	0	4.748
	Tot	al for Activit	v 1GNENW	0100:		732	22.188	1.421	4.748	28.356	7.832	36.188

Line Item 0100 - SAP/HASP

BOE

Estimator's Experience: 15 years of experience planning, estimating and conducting projects of similar scope and size. (S.Serreze) Item Desc:Preparation of SAP Addendums

Breakdown of Cost Data:

Item: Prepare SAP, HASP and QAP addendum. Address KH, DOE and regulatory agency comments.

Units: hours

Unit Cost: 340

Unit Cost Adjustment Factor: none

Revised Unit Hours: 340

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WBS No: 1GAB0203 Activity ID: 1GNENW0100

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

Basis for adjustment: None

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s		Cost Element		Skill		Department	Curve	Quantity Units
L	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	100.00 Hours
d	Factors	100 hrs					T.	
L	750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	40.00 Hours
d	Factors	40 hrs					T.	
L	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	40.00 Hours
d	Factors	40 hrs					T.	
L	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	40.00 Hours
	Factors	40 hrs					T.	
L	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	40.00 Hours
4	Factors	40 hrs					T.	
L	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	40.00 Hours
	Factors	40 hrs					T.	
L	A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K265S	ER Programs	Linear	1.420.88 Dollars

Factors 42 estimated \$/hr 40 hrs

Line Item 0200 - PAM

0.84576 [SYS 061400] .84576000 - System

BOE

Estimator's Experience based generally on historical data for Ryan's Pit

Item Desc:

Preparation of PAM in support of source removal of previously characterized UBC.

Breakdown of Cost Data:

Item: Preparation of PAM for Ryan's Pit source removal action modified to include GIS support.

Units: hours

Unit Cost: 40 hours GIS support, 72 hours project manager technical support, 628 hours for technical staff to write document.

Unit Cost Adjustment Factor: None

Revised Unit Hours: None

Basis for adjustment. Technical staff support was reduced by about 1/2 due to the lesser complexity of this project. Assumed that 2 people would take 1 month to write this for 320 hours.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	320.00	Hours
ن.	Factors	320 hrs							
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	72.00	Hours
	Factors	72 hrs	•		•				
	750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	40.00	Hours

Line Item SYS - Contingency And Escalation

Factors

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3.278.36	Dollars
_	Factors	3278.36 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.469.26	Dollars

Factors 1469.26 Dollars

Activity ID: 1GNENW0120 Description:	Field Preparation - Group NE/N
ACTIVITY ID. IGITERWOTZO Description.	Tield Tieparation - Gloup NE/N

AUGUSTICS ID. TOTAL	total local field in the state of the state									Cost tust			
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost	
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost			
0100	field prep	1.00	each	EE	300	300	8,644	710	0	9,354	3,051	12,405	
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1,854	1,854	0	1,854	

1 Schedule Risk

Cost Rick

WBS No: 1GAB0203 Baseline Devl Proiect **Rocky Flats Closure Project** 1GAB Activity ID: 1GNENW0120 WBS Filter

Total for Activity 1GNENW0120:

Baseline Cost and Basis of Estimate Activity Filter 300 710

8.644

Line Item 0100 - field prep

BOE

Estimator's Experience based on 10 years of experience planning, estimating, and conducting projects of similar scope and size.

Item Desc:

Prepare Ecology Survey/NEPA Support, and Utility Clearance/Soil Disturbance Permit.

Breakdown of Cost Data:

Item: Prepare field permits, purchase equip, identify utilities, training

Units: hours Unit Cost: 320

Unit Cost Adjustment Factor: none

Revised Unit: none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element		Skill		Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00 Hours
Factors	80 hrs			,			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	R100S	RMRS Salaried	Linear	20.00 Hours
Factors	20 hrs			I	T.		
750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	40.00 Hours
Factors	40 hrs		T		Т		
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	80.00 Hours
Factors			T	ı	T		
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	80.00 Hours
Factors			1		I		
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	0.00 Dollars
Factors	0 Dollars						
			1		1	0.84576 ISYS 061400	
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	710.44 Dollars

20 estimated \$/hr - RMRS Corp Factors hrs

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.274.41	Dollars
	Factors	1274.41 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	579.71	Dollars

579.714 Dollars **Factors**

Activity ID: 1GN	IENW0140 Description: Readiness Review - Group N		Cost Risk 1 Schedule Risk 1									
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0010	readiness assessment	1.00	each	EE	240	240	7,842	2,436	0	10,278	2,768	13,047
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1,950	1,950	0	1,950
	al for Activi	itv 1GNENW	0140:		240	7.842	2.436	1.950	12.228	2.768	14.997	

Line Item 0010 - readiness assessment

BOE

Estimator's Experience based on 15 years of experience planning, estimating and conducting projects of similar scope and size.

Evaluate readiness of the field characterization team and plans.

Breakdown of Cost Data:

Item: Perform readiness evaluation

Units: hours Unit Cost: 240 1.854

11.208

0.84576 [SYS 061400] .84576000 - System

3.051

14.259

WBS No:1GAB0203Rockv Flats Closure ProjectActivity ID:1GNENW0140Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY

Unit Cost Adjustment Factor: none

Revised Unit Hours: 240

Basis for adjustment. None

\$1,200 for minimal site training and equipment mobilization.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

ces		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00	Hours
	Factors	80 hrs							
	750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 hrs							
	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 hrs							
	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 hrs							
	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	1.014.91	Dollars
	Factors	1200 Dollars							
					ı		0.84576 ISYS 061400	1 .84576000 - \$	System
	A5H	SUBCONTRACTED SRVS	P170	OTHER ADMINISTRATIVE & PROFE	K265S	ER Programs	Linear	1.420.88	Dollars
	Factors	42 estimated \$/hr		40 hrs					

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.340.30	Dollars
	Factors	1340.3 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	609.68	Dollars

Factors 609.684 Dollars

Activity ID:	1GNENW0150

Description	<i>n:</i> Field	Charac	terization	- Group	NE/N	1W
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Cost Risk 4 Schedule Risk

4

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	Geoprobe characterization	1.00	each	EE	192	192	5.386	5.575	0	10.960	1.901	12.861
0200	analyze samples	1.00	each	VQ	0	0	0	46.036	0	46.036	0	46.036
0300	project mamt oversight	1.00	each	EE	160	160	3.538	2.842	0	6.379	1.249	7.628
0400	IHSS 174a remedial action	1.00	each	EE	70	70	1.972	42.288	0	44.260	696	44.956
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	17.199	17.199	0	17.199
	Tot	al for Activit	y 1GNENW0	150:		422	10,895	96,741	17,199	124,834	3,846	128,680

Line Item 0100 - Geoprobe characterization

BOE

Estimator's Experience. 10 years experience and input from Steve Singer, Site groundwater expert and landlord of the geoprobe.

The characterization activity consists of drilling 3 geoprobe boreholes in each trench to a depth of 2 feet below the trenches (12 feet) at each of PAC NE-1412 and PAC NE-1413 for a total of 6 boreholes. Samples will be collected every 2 feet and analyzed for radionuclides and VOCs. NE-1413 soil samples will also be analyzed for PCBs.

Item Desc:

Collection of soil samples. A site Environmental Engineer will direct the sample collection, containerize, package, and ship the samples; prepare field QC documentation, and prepare field notes on a full time basis. A site RCT will monitor the site for radiological contamination on a full time basis. A site Industrial Hygieneist will implement the field portion of the HASP on a full time basis.

Breakdown of Cost Data:

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WBS No: 1GAB0203 Activity ID: 1GNENW0150

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter

Starts In FY

Item: Site Personnel for support of sample collection The effort is expected to take 8 days including mobilization and demobilization of equipment and personnel. As per similar projects, full time RCT and HSS support will be required as well as a fulltime project manager who will also be the project's technical support. Supplies are expected to cost \$500 based on similar small projects.

Units: hours

Unit Cost: 8 days at 8 hour days = 64 hours per person Unit Cost Adjustment Factor: none

Revised Unit Hours:

Item - Geoprobe sample collection. As per Steve Singer, Site Groundwater expert, the Site owned Geoprobe can drill 2, 10 foot deep boreholes per day. The cost per day is approximately \$2,000 per day and includes the geoprobe operators, the sample collection and shipment team, sample data entry, and PPE. 6 Geoprobe borings will take 3 days for a cost of \$6,000.

1 each at \$6,000 Unit Cost Adjustment factor - none Revised Unit Cost - na Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

STRAIGHT TIME BASE				Department	Curve	Ouantity Units
STRAIGHT HIVE BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	64.00 Hours
64 hrs						
STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	64.00 Hours
64 hrs						
STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	64.00 Hours
64 hrs						
SUPPLIES	0000	NONE	K265S	ER Programs	Linear	500.00 Dollars
500 \$						
SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	5.074.56 Dollars
S	STRAIGHT TIME BASE 5 64 hrs STRAIGHT TIME BASE 5 64 hrs SUPPLIES 5 500 \$	STRAIGHT TIME BASE	STRAIGHT TIME BASE P090 INDUSTRIAL HYGIENISTS 64	STRAIGHT TIME BASE	STRAIGHT TIME BASE	STRAIGHT TIME BASE

Factors 6000 \$

0.84576 [SYS 061400] .84576000 - System

Line Item 0200 - analyze samples BOE

Vendor Ouote

Data provided by KH ASD during the rebaselining effort.

Item Desc:

Analyze samples, they will be anlyzed for PCBs. This item is priced on a per sample basis.

3 boreholes at T-12 samples every 2 feet for 12 foot total depth = 18 samples with 9 QA/QC samples. Analyze for rads and vocs

3 boreholes at T-13 samples every 2 feet for 12 foot total depth = 18 samples with 9 OA/OC samples. Analyze for PCBs, rads and vocs.

Breakdown of Cost Data:

Item: Analyze samples at an offsite laboratory.

Units: analysis

Unit Cost:

54 rad screens at \$32 each = \$1,728

54 isotopics at \$590 each = \$31,860

54 VOCs at \$280 each = \$15,120

27 PCBs (other industrial hygiene) @ \$150 each = \$4,050

Data validation will be done for 3 sets of 20 samples each

3 VOC Data validation cost for > 11 samples at \$246 each = \$738

3 rad data validation costs for >11 samples at \$312 each = \$936

Total Unit A5H costs are \$54,432. Shipping and bottle charges are included in Geoprobe rate

Unit Cost Adjustment Factor:

Revised Unit Hours:

Basis for adjustment: None

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

WBS No: 1GAB0203 Activity ID: 1GNENW0150

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Baseline Devl Proiect WBS Filter

1GAB Activity Filter

Resources

s	Cost Element	Skill	Department	Curve	Quantity Units
	A5H SUBCONTRACTED SRVS	0000 NONE	K267S Analytical Laboratory Services	Linear	46.036.41 Dollars
-		*	•		

54432 \$ **Factors**

0.84576 [SYS 061400] .84576000 - System

Starts In FY

Line Item 0300 - project mgmt oversight

BOE

Estimator's Experience

Four week field task. Project Management/Oversight. Based on half time for a Project Manager, Administrative staff, and Cost Estimator/Scheduler

Breakdown of Cost Data: Item: Mgmt oversight Units: hours Unit Cost: 80 hours per person Unit Cost Adjustment Factor: none Revised Unit Hours:

Basis for adjustment.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	es Cost Element		Skill		Department	Curve	Quantity	Units	
	750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	80.00	Hours
	Factors	80 hrs							
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	80.00	Hours
	Factors	80 hrs							·
	A5H	SUBCONTRACTED SRVS	P170	OTHER ADMINISTRATIVE & PROFE	K265S	ER Programs	Linear	2.841.75	Dollars
•	Factors	80 hrs		42 estimated \$/hr		·			·

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BOE

A limited remedial action will be completed for IHSS 174a. An in-situ bioremediation technology is assumed for this source and will consist of drilling and installing 3 geoprobe wells around the identified source area, with injection of patented material into the wells. No recirculation of material or groundwater pumping will occur. Material will be left in the borehole to naturally degrade.

Based on preliminary data from presentations, a one-time application is expected to take 5 days and cost \$50,000. Additional treatment will not be required.

Estimators Experience - 5 years groundwater remediation

Experience Item Desc -Breakdown of Cost Data:

Item - in-situ bioremediation of VOCs

Units - 1 each

Line Item 0400 - IHSS 174a remedial action

Unit Cost - \$50,000 Unit Cost Adjustment factor - none

Revised Unit Cost - n/a Basis for adjustment - n/a

Full time field support is required as well as project support. These resources are derived from similar projects such as IHSS 118.1. No samples will be

collected during the remedial action. Env Engineer full time = 40 hours

Secretarial support at 25% FTE = 10 hours

Planning support 25% FTE = 10 hours

Industrial Hygiene support 25% FTE = 10 hours

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

ces		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 Hours							
	750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	10.00	Hours
	F	10 h							

WBS No: 1GAB0203 Activity ID: 1GNENW0150

Rocky Flats Closure Project Rasalina Cost and Rasis of Estimate

Proiect WBS

ect	Baseline	Devl
Filter	1GAB	

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750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	R100S	RMRS Salaried		Linear	10.00 Hours
Factors								
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried		Linear	10.00 Hours
Factors	10h							
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs		Linear	42.288.00 Dollars
Factors	50000 \$							

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Line Item SYS - Contingency And Escalation

BOE

Resources

es	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	11.989.12	Dollars
Factor	s 11989.1 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	5.209.69	Dollars

Factors 5209.69 Dollars

Basis for adjustment. N/A

Activity ID: 1GNENW0170

Description: Prepare NEA - Group NE/NW

Cost Risk 2 Schedule Risk

ACTIVITY ID. TOTAL	Description. Trepare NFA - Gloup NE/NV	v					Cost Risk	Z Schedule I	usk J		
Line Item	Description	Quantity	Units BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
			Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	develop documentation	1.00 eac	h EE	138	138	4.061	0	0	4.061	1.431	5.492
SYS	Contingency And Escalation	1.00 ea	EE	0	0	0	0	851	851	0	851
	Tota	GNENW0170:		138	4.061	0	851	4.912	1.431	6.343	

Line Item 0100 - develop documentation

BOE

Estimator's Experience: This estimate was constructed based on actual hours required to complete previous NFA Reports (obtained from actual author) and professional judgement of level of effort required for remaining reports.

Perform Data Analysis including GIS representation of data, Characterization Report, and associated project management.

Breakdown of Cost Data: Item: Develop Documentation Units: Hours Unit Cost: 138 Environmental Engineer 45 hrs Evaluate & assemble existing data. Draft Report. 10 hrs Identify & pull existing data from database. SWD Technician GIS Technician 15 hrs Develop maps for Report. Print multiple copies. Technical Editor 15 hrs Complete initial and revised tech edits of Report. Technical Reviews 4 hrs Review and comment per area of expertise. Peer (2) 8 hrs Review and comment per area of expertise. 4 hrs Review and commnet per area of expertise. Compliance Environmental 4 hrs Review and comment per area of expertise. Management (2) 8 hrs Review and comment per area of expertise. 4 hrs Review and comment per area of expertise. Legal Environmental Engineer 15 hrs Disposition comments and finalize document. Administrative Support 6 hrs Copy & assemble final documents, submit to records. Unit Cost Adjustment Factor: none Revised Unit Hours: 138

S Co.	st Element	Skill		Department	Curve	Ouantity Units	
750 STRAIGHT	TIME BASE E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	60.00 Hours	
Factors 60	hrs					,	
750 STRAIGHT	TIME BASE E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	4.00 Hours	
Factors 4	hrs						
750 STRAIGHT	TIME BASE G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	6.00 Hours	
Factors 6	hrs						

WBS No: 1GAB0203 *Activity ID:* 1GNENW0170

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Baseline Devl 1GAB

		Daseille Cost all	iu Dasis	Activity Filter *		Starts In FY *
750 STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	4.00 Hours
Factors 4 hrs						
750 STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K265S	ER Programs	Linear	4.00 Hours
Factors 4 hrs			,			
750 STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K109S	Env Svs. Stewardship & Compliance	Linear	4.00 Hours
Factors 4 hrs	1		I			
750 STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	K215S	Information Resource Mat	Linear	25.00 Hours
Factors 25 hrs	1		I			
750 STRAIGHT TIME BASE	P160	TECHNICAL WRITERS AND EDITOR	R100S	RMRS Salaried	Linear	15.00 Hours
Factors 15 hrs	1		I			
750 STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	K101S	General Counsel	Linear	4.00 Hours
Factors 4 hrs	1		I			
750 STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	K253S	Remediation. Industrial & Site Serv	Linear	4.00 Hours
Factors 4 hrs	1		I			
750 STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	8.00 Hours
Factors 8 hrs						

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element	Skill			Department	Curve	<i>Ouantity</i>	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	581.14	Dollars
	Factors	581.143 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	269.86	Dollars

Factors 269.861 Dollars

WBS No: 1GAB	GO204 Title: Group 900-2 (Oil Burn Pit/F	Pallet Burn	Si									
Activity ID: 1G9	Description: Planning/Procurement IHSS	- Group 900-2						Cost Risk 2 Schedule Risk 2				
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	SAP/HASP/SOW	1.00	each	EE	340	340	9.830	0	0	9.830	3.470	13.299
SYS	YS Contingency And Escalation		ea	EE	0	0	0	0	2.008	2.008	0	2.008
	al for Activit	ty 1G900200	nn.		340	9.830	0	2 008	11 838	3 470	15 308	

Line Item 0100 - SAP/HASP/SOW

BOE

Estimator's Experience: 10 years of experience planning, estimating and conducting projects of similar scope and size. (A Primrose)

Item Desc:Preparation of SAP Addendums. This is a limited investigation for a small area. Most of the contaminated soils were probably removed during construction of the PSZ fence, so confirmation samples only will be required.

Breakdown of Cost Data:

Item: Prepare SAP and HASP addenda. Address KH, DOE and regulatory agency comments. The estimate included the limited procurement activities required to utilize on site subcontractors and is based on other limited sampling projects such as that for IHSS 118.1.

Units: hours
Unit Cost: 340

Unit Cost Adjustment Factor: none

Revised Unit Hours: 340

E050 Environmental Engineer 2.5 Weeks for document development

M030 Project Management 10% oversight of project

P090 Industrial Hygienist 1 week for HASP development

P080 Health Physicist 1 week for ALARA review and RWP

G040 Administrative 40 hours Secretarial support for document prep and distribution E110 Quality Control Engineers 40 hours for document review and comment resolution

P070 Project Controls 40 hours planning and scheduling support based on similar projects.

Total = 340 hours

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Rocky Flats Closure Proiect Proiect Baseline Devl
Baseline Cost and Basis of Estimate Baseline Devl

Baseline Devl

Baseline Devl

IGAB

1000020000	Baseline Cost and Basis of Estimate	WBB I titel	10/12
	Bassinis etsi ana Basis e. Esimate	Activity Filter *	*
Basis for adjustment: None			

Resources

WBS No:

Activity ID:

.	Cost Element		Skill		Department	Curve	Ouantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	100.00	Hours
Factors	100 hrs							
750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	40.00	Hours
Factors	40 hrs							
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	40.00	Hours
Factors	40 hrs							
750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	R100S	RMRS Salaried	Linear	40.00	Hours
Factors	40 hrs							
750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	40.00	Hours
Factors	40 hrs							
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	40.00	Hours
Factors	40 hrs							
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	40.00	Hours
Factors	40 hrs							

Line Item SYS - Contingency And Escalation

1GAB0204

1000020000

BOE

Resources

es		Cost Element	Skill			Department	Curve	Quantity	Units
	CON CONTINGENCY		0000	NONE	ZDEPT No Department		Linear	1.386.75	Dollars
	Factors	1386.76 Dollars							
		ESCALATION	0000	NONE	ZDEPT	No Department	Linear	621.50	Dollars

Factors 621.502 Dollars

Activity ID: 1G90020020 Description: Field Preparation - Group 900-2 Cost Risk 2 Schedule Risk 2

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	field prep		1.00 each EE		380	380	13.172	0	0	13.172	4.650	17.822
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.691	2.691	0	2.691
	Tot	Total for Activity 1G90020020:						0	2.691	15.863	4.650	20.513

Line Item 0100 - field prep

BOE

Estimator's Experience 10 years of experience planning, estimating and conducting projects of similar scope and size. (A Primrose)

Item Desc:

Prepare Radiological Work Permit, Ecology Survey/NEPA Support, and Utility Clearance/Soil Disturbance Permit. This is a routine activity with extensive involvement from project staff to develop these documents.

Breakdown of Cost Data:

Item: Prepare field permits, purchase equip, identify utilities, training

Units: hours

Unit Cost: 380

Unit Cost Adjustment Factor: none

Revised Unit: none

E050 Environmental Engineer 120 hours/full time for 3 weeks for document development

M030 Project Management 80 hrs 2/3 support for issue resolution and oversight of project

P090 Industrial Hygienist 80 hrs 2/3 support for issue resolution

P080 Health Physicist 40 hr 1/3 time to prepare RWP

G040 Administrative 40 hours Secretarial support for document prep and distribution P070 Project Controls 20 hours planning and scheduling support based on similar projects.

Total = 380 hours

Resources

es		Cost Element	Skill	Depart	rtment	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried		Linear	120.00	Hours
	Factors	120 hrs						

Starts In FY

WBS No: 1GAB0204 Baseline Devl Proiect **Rocky Flats Closure Project** 1GAB Activity ID: 1G90020020 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY E120 SAFETY ENGINEERS 750 STRAIGHT TIME BASE R100S RMRS Salaried 80.00 Hours Linear 80 hrs G010 ADMINISTRATIVE ASSISTANTS R100S RMRS Salaried 40,00 Hours 750 STRAIGHT TIME BASE Linear hrs 80,00 Hours 750 STRAIGHT TIME BASE M020 MANAGERS (GRADE 69 - 72) R100S RMRS Salaried Linear Factors 80 hrs 750 STRAIGHT TIME BASE P070 COST ESTIMATORS PLANNERS AN R100S RMRS Salaried 20.00 Hours Linear Factors 20 hrs 750 STRAIGHT TIME BASE P080 HEALTH PHYSICISTS R100S RMRS Salaried 40.00 Hours Linear Factors 40 hrs Line Item SYS - Contingency And Escalation BOE Units Resources Cost Element Skill Department Curve Ouantity CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 1.858.33 Dollars Factors 1858.33 Dollars 0000 NONE ZDEPT No Department 832.85 Dollars ESC ESCALATION Linear Factors 832.847 Dollars Activity ID: 1G90020040 1 Schedule Risk Description: Readiness Review - Group 900-2 Cost Risk Line Item Description Units BOELabor Labor Hours Labor Cost Materials/ Sub | Contingency Total Prime Burden Cost Total Cost Quantity Type Hours/Unit **Total Total** & Escalation Cost 0100 readiness assessment 1.00 each EE 240 240 7.842 1.421 9.263 2.768 12.032 FF 1.00 ea SYS Contingency And Escalation 0 0 1.798 1.798 0 1.798 Total for Activity 1G90020040: 240 7.842 1.421 11.062 2.768 13.830 1.798 Line Item 0100 - readiness assessment Estimator's Experience based on 15 years of experience planning, estimating and conducting projects of similar scope and size. BOE Evaluate readiness of the field characterization team and plans. Breakdown of Cost Data: Item: Perform readiness evaluation Units: hours Unit Cost: 240 Unit Cost Adjustment Factor: none Revised Unit Hours: 240 Basis for adjustment. None This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions. Resources Quantity Units Cost Element Department Curve E050 ENVIRONMENTAL ENGINEERS 750 STRAIGHT TIME BASE R100S RMRS Salaried Linear 80.00 Hours 80 hrs G010 ADMINISTRATIVE ASSISTANTS R100S RMRS Salaried 40.00 Hours 750 STRAIGHT TIME BASE Linear 40 hrs M020 MANAGERS (GRADE 69 - 72) R100S RMRS Salaried 40.00 Hours 750 STRAIGHT TIME BASE Linear Factors 40 hrs 750 STRAIGHT TIME BASE P080 HEALTH PHYSICISTS R100S RMRS Salaried 40.00 Hours Linear Factors 40 hrs 40.00 Hours 750 STRAIGHT TIME BASE INDUSTRIAL HYGIENISTS R100S RMRS Salaried Linear Factors 40 hrs P170 OTHER ADMINISTRATIVE & PROFE | K265S | ER Programs A5H SUBCONTRACTED SRVS 1 420 88 Dollars Linear

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42

Factors

estimated \$/hr

hrs

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WBS No: 1GAB0204 *Activity ID:* 1G90020040

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY

Line Item SYS - Contingency And Escalation

BOE

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.236.03	Dollars
	Factors	1236.03 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	562.26	Dollars

Factors 562.256 Dollars

Activity ID: 1G90020050

Description: Field Characterization - Group 900-2

Cost Risk

2 Schedule Risk

2

Description: 1 Cod Order Cost Risk 2 Schedule Risk 2												
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		l .
0100	collect soil samples	1.00	each	EE	288	288	8.593	6.766	0	15.359	3.033	18.392
0200	analyze samples	1.00	each	VQ	0	0	0	32.218	0	32.218	0	32.218
0300	project mamt oversight	1.00	each	EE	58	58	1.944	0	0	1.944	686	2.630
SYS	Contingency And Escalation	1.00) ea	EE	0	0	0	0	8.039	8.039	0	8.039
Total for Activity 1G90020050						346	10 537	38 984	8 039	57 561	3 719	61 280

Line Item 0100 - collect soil samples

BOE

Estimator's Experience

Item Desc:

Collection of soil samples. A site Environmental Engineer will direct the sample collection, containerize, package, and ship the samples; prepare field QC documentation, and prepare field notes on a full time basis. A site RCT will monitor the site for radiological contamination on a full time basis. A site Industrial Hygieneist will implement the field portion of the HASP on a full time basis.

Breakdown of Cost Data:

Item: Site Personnel for support of sample collection The effort is expected to take 12 days including mobilization and demobilization of equipment and personnel. As per similar projects, full time RCT and HSS support will be required as well as a fulltime project manager who will also be the project's technical support.

Units: hours

Unit Cost: 12 days at 8 hour days = 96 hours per person

Unit Cost Adjustment Factor: none

Revised Unit Hours:

Item - Geoprobe sample collection. As per Steve Singer, Site Groundwater expert, the Site owned Geoprobe can drill 2, 10 foot deep boreholes per day. The cost per day is approximately \$2,000 per day and includes the geoprobe operators, the sample collection and shipment team, sample data entry, and PPE. 8 Geoprobe borings will take 4 days for a cost of \$8,000.

1 each at \$8,000

Unit Cost Adjustment factor - none

Revised Unit Cost - na

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element		Skill		Department	Curve	Quantity Units
	50 STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	R100S	RMRS Salaried	Linear	96.00 Hours
Fa	tors 96 hrs						
	50 STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	96.00 Hours
Fa	tors 96 hrs						,
	50 STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	96.00 Hours
Fa	tors 96 hrs						
A	5H SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	6.766.08 Dollars

Factors 8000 d

0.84576 [SYS 061400] .84576000 - System

Line Item 0200 - analyze samples

BOE Vendor Quote

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

From Kaiser-Hill ASD spreadsheet.

Item Desc

Analyze samples, they will be anlyzed for uranium isotopes and VOCs. This is priced on a per sample basis from the information provided by Kaiser Hill ASD for the baseline effort.

40 real samples and 20 QA/QC samples will be collected and analyzed offsite. Cost includes shipping, data validation, bottle charges, etc.

Breakdown of Cost Data:

Item: Analyze samples at an offsite laboratory.

Units: analysis

Unit Cost:

60 rad screens at \$32 each = \$1,920

60 isotopics at \$295 each (\$590 each reduced 50% for uranium isotopes only)= \$17,700

60 VOCs at \$280 each = \$16,800

Data validation will be done for 3 sets of 20 samples each

3 VOC Data validation cost for > 11 samples at \$246 each = \$738

3 rad data validation costs for >11 samples at \$312 each = \$936

Total Unit A5H costs are \$38,094. Shipping and bottle charges are included in Geoprobe rate

Unit Cost Adjustment Factor: NA

Revised Unit Hours:

Basis for adjustment: NA

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

ces		Cost Element		Skill	Department	Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE K267S	Analytical Laboratory Services	Linear	32.218.38	Dollars

Factors 38094 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 0300 - project mgmt oversight

BOE

Estimator's Experience

Item Desc:

Project Management/Oversight. Additional hours will be used for project management, secretarial support, budget staff.

Breakdown of Cost Data:

Item: Mgmt oversight

Units: hours

Unit Cost: Based on a 12 day project, this will be 1/4 time for the secretary and Project Manager (24 hours each), 10 hours for the Cost

Estimator/Scheduler.

Unit Cost Adjustment Factor: none

hrs

Revised Unit Hours:

Basis for adjustment.

Resources

s	Cost Element		Skill			Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	24.00	Hours
F	actors	24hrs							
	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	24.00	Hours
F	actors	24 hrs							
	750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	10.00	Hours

Line Item SYS - Contingency And Escalation

10

Factors

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	5.551.48	Dollars
L.	Factors	5551.48 Dollars							
L	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	2.488.01	Dollars

Factors 2488.01 Dollars

 Activity ID:
 1G90020070
 Description:
 Prepare NFA - Group 900-2
 Cost Risk
 2
 Schedule Risk
 3

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB

							Activity Filter *			Starts In FY *		
Line Item Description		Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	develop NFA documentation 1.00 each				138	138	4.164	0	0	4.164	1.470	5.634
SYS	Contingency And Escalation	1.00 ea			0	0	0	0	851	851	0	851
Total for Activity 1G90020070:							4.164	0	851	5.015	1.470	6.485

Line Item 0100 - develop NFA documentation

BOE

Estimator's Experience:
This estimate was constructed based on actual hours required to complete previous NFA Reports (obtained from actual author) and professional judgement of level of effort required for remaining reports.

Item Desc:

Perform Data Analysis including GIS representation of data, Characterization Report, and associated project management.

Breakdown of Cost Data: Item: Develop Documentation Units: Hours Unit Cost: 138 Environmental Engineer 45 hrs Evaluate & assemble existing data. Draft Report. SWD Technician 10 hrs Identify & pull existing data from database. GIS Technician 15 hrs Develop maps for Report. Print multiple copies. Technical Editor 15 hrs Complete initial and revised tech edits of Report. Technical Reviews OA 4 hrs Review and comment per area of expertise. Peer (2) 8 hrs Review and comment per area of expertise. 4 hrs Review and commnet per area of expertise. Compliance Environmental 4 hrs Review and comment per area of expertise. Management (2) 8 hrs Review and comment per area of expertise. 4 hrs Review and comment per area of expertise. Legal Environmental Engineer 15 hrs Disposition comments and finalize document. Administrative Support 6 hrs Copy & assemble final documents, submit to records. Unit Cost Adjustment Factor: none Revised Unit Hours: 138 Basis for adjustment. N/A

Resources

Cost Element	Skill	Department	Curve	Ouantity Units
750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	60.00 Hours
Factors 60 hrs				
750 STRAIGHT TIME BASE	E110 QUALITY CONTROL ENGINEERS	R100S RMRS Salaried	Linear	4.00 Hours
Factors 4 hrs				
750 STRAIGHT TIME BASE	G010 ADMINISTRATIVE ASSISTANTS	R100S RMRS Salaried	Linear	6.00 Hours
Factors 6 hrs				
750 STRAIGHT TIME BASE	M020 MANAGERS (GRADE 69 - 72)	K265S ER Programs	Linear	4.00 Hours
Factors 4 hrs				
750 STRAIGHT TIME BASE	M020 MANAGERS (GRADE 69 - 72)	R100S RMRS Salaried	Linear	4.00 Hours
Factors 4 hrs				
750 STRAIGHT TIME BASE	M040 MANAGERS (GRADE 64 - 68)	K109S Env Svs. Stewardship & Compliance	Linear	4.00lHours
Factors 4 hrs	T			
750 STRAIGHT TIME BASE	P060 COMPUTER SYSTEMS ANALYSTS	K215S Information Resource Mat	Linear	25.00lHours
Factors 25 hrs	T			
750 STRAIGHT TIME BASE	P160 TECHNICAL WRITERS AND EDITOR	R R100S RMRS Salaried	Linear	15.00lHours
Factors 15 hrs	T			
750 STRAIGHT TIME BASE	P170 OTHER ADMINISTRATIVE & PROFE	K101S General Counsel	Linear	4.00 Hours
Factors 4 hrs	T			
750 STRAIGHT TIME BASE	S020 ENVIRONMENTAL SCIENTISTS	K253S Remediation. Industrial & Site Serv	Linear	4.00 Hours
Factors 4 hrs	T			
750 STRAIGHT TIME BASE	S020 ENVIRONMENTAL SCIENTISTS	R100S RMRS Salaried	Linear	8.00 Hours
Factors 8 hrs				

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WBS No: 1GAB0204 Activity ID: 1G90020070

Rocky Flats Closure Project **Baseline Cost and Basis of Estimate**

Baseline Devl Proiect WBS Filter 1GAB Activity Filter

Starts In FY

Line Item SYS - Contingency And Escalation

Resources	Cost Element	Skill	Department	Curve	Ouantity Units
	CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	587.50 Dollars
	Factors 587,499 Dollars				
	ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	263.30 Dollars

263.3 Dollars

WBS No: 1GAB	<u>1205 Title: Group 900-12 (T5, 6, 8, 9, 1</u>	0, 11)										
Activity ID: 1G90	ctivity ID: 1G900C0100 Description: Develop Regrad/Reveq Plan - IHSS Group 900-12								2 Schedule R	Pisk 2		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
100	develop regrading and revegetating plan	1.00	each	EE	184	184	4.575	0	0	4.575	2.182	6.757
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	361	361	0	361
	To	tal for Activ	ty 1G900C0	100:		184	4.575	0	361	4.936	2.182	7.118

Line Item 100 - develop regrading and revegetating plan

BOE

Estimators Experience - 10 years experience in similar projects.

Experience Item Desc - Develop Regrade/revegetation Plan. This document will be a very short, technical document which will describe the areas to be disturbed, soil stockpile areas, and reseeding. It will not require agency approval.

Breakdown of Cost Data:

- 80 hours for civil engineer to develop regrade revegetation approach and write this up.
- 20 hours for civil engineer to obtain Site approvals and incorporate comments.
- 20 hours Env. Engineer support.
- 20 hours GIS support
- 4 hours for compliance/Quality Assurance review.
- 20 hours for Secretarial support to distribute, edit and copy
- 20 hours for project management support

Basis for adjustment - none

Resources

							, , , , , , , , , , , , , , , , , , , ,		
es	Cost Element		Skill		Department	Curve	Quantity Units		
750	STRAIGHT TIME BASE	E020	CIVIL ENGINEERS	R100S	RMRS Salaried	Linear	100.00 Hours		
Factors	100 hrs								
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	20.00 Hours		
Factors	20 hrs								
750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	20.00 Hours		
Factors	20 hrs								
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	20.00 Hours		
Factors	20 hrs								
750	STRAIGHT TIME BASE	P050	COMPLIANCE INSPECTORS	R100S	RMRS Salaried	Linear	4.00 Hours		
Factors	4 hrs								
750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	20.00 Hours		
Fastons	20 hrs GIS support								

Factors 20 hrs GIS support

Line Item SYS - Contingency And Escalation BOE

Resources

Activity ID: 1G900C0110

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	219.25	Dollars
	Factors	219.250 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	142.08	Dollars

Factors 142.076 Dollars

Activity ID: 1G90	Item Description Quantity Units BOE Labor Labor Hours Labor Cost Materials/Sub Contingency Total Prime Burden Cost Total Cost											
Line Item		Description	Quantity U					Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		

 WBS No:
 1GAB0205
 Rockv Flats Closure Project
 Project
 Baseline Devi

 Activity ID:
 1G900C0110
 Baseline Cost and Basis of Estimate
 WBS Filter
 1GAB

						Acı	ivuv r iiier		34	aris in r i	
0100	Procurement/HASP	1.00 each	EE	210	210	5.812	0	0	5.812	2.772	8.585
SYS	Contingency And Escalation	1.00 ea	EE	0	0	0	0	459	459	0	459
•	•	Total for Activity 1G9000	0440-		210	5 812	0	459	6 271	2 772	9 044

Line Item 0100 - Procurement/HASP

BOE

Estimator's Experience: 10 years of experience planning, estimating and conducting projects of similar scope and size. (A Primrose)

Item Desc: The HASP will address expected physical conditions such as heat or cold stress. No contaminants are expected. The HASP will be generated by Site personnel and approved/amended by the subcontractor. The procurement will take minimal time and will be a modification to an existing Site subcontract. The staff will be previously trained.

Breakdown of Cost Data:

Item: Prepare HASP and obtain procurement. The estimate is based on other limited sampling projects such as that for IHSS 118.1.

Units: hours Unit Cost:

- 40 hours for health and safety support of HASP, based on previous experience
- 40 hours project manager support for development of SOW, review of HASP
- 40 hours env engineer support for development of HASP and SOW
- 40 hours Secretarial support for document prep and distribution This is the total secretarial support for this project.
- 10 hours for QA document review and comment resolution
- 40 hours planning and scheduling support based on similar projects. These are the planning costs for the entire project

210 hours.

Unit Cost Adjustment Factor: none

Resources

s	Cost Element		Skill		Department	Curve	Quantity Units
750 STRAI	GHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00 Hours
Factors 40	hrs						
750 STRAI	GHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	10.00 Hours
Factors 10	hrs						
750 STRAI	GHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	40.00 Hours
Factors 40	hrs						
750 STRAI	GHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	40.00 Hours
Factors 40	hrs						
750 STRAI	GHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	R100S	RMRS Salaried	Linear	40.00 Hours
Factors 40	hrs						
750 STRAI	GHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	40.00 Hours
Factors 40	hrs						

Line Item SYS - Contingency And Escalation

BOE

Resources

ces		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	278.57	Dollars
	Factors	278.570 Dollars							
Į	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	180.52	Dollars

Factors 180.515 Dollars

Activity ID: 1	G900C0130	Description: Regrade/Reveg - IHSS Grou	p 900-12			Cost Risk	2	Schedule R	isk	2

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	regrade and revegetate	1.00	each	HC	88	88	2.662	37.307	0	39.969	1.270	41.238
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.205	2.205	0	2.205
	Tot	88	2.662	37.307	2.205	42.174	1.270	43.444				

Line Item 0100 - regrade and revegetate

BOE

Historical Data Source - This estimate is from on the Trench 1 regrade revegetation costs from FY00. It is assumed that the area and level of effort will be the same for this project as for Trench 1. The vendor was Custom Services of Colorado. Supplier of dirt was Pioneer Sand Company, Inc.

Item Desc -

Breakdown of Historical Data:

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Ctuata L. EV *

Baseline Devl Proiect **Rocky Flats Closure Project** WBS Filter 1GAB **Baseline Cost and Basis of Estimate**

Activity Filter

Item A5H Subcontracts 1 month rental Port-o-let \$70 1 month rental Hand-wash \$50 1 week front Loader \$3,175 1 week 140H grader with ripper \$2,315 Mobilization charge \$600 Topsoil \$10/ton * 2,373 tons \$23,730 Seed mixture \$9.63 lb * 80 lbs \$770.40 Mulch/Soil Guard \$1.20 lb * 6,600 \$7,920 Labor \$3,480 TOTAL \$42,110.40 Site Support A5H Site Ecology Group support \$2,000 40 hours Full time Proj manager support

Full time h&S support 40 hours Compiance/QA inspectors 8 hours

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

WBS No:

Activity ID:

1GAB0205

1G900C0130

s	Cost Element		Skill		Department	Curve	Ouantity	Units
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	40.00	Hours
Factors	40 hrs							
750	STRAIGHT TIME BASE	P050	COMPLIANCE INSPECTORS	R100S	RMRS Salaried	Linear	8.00	Hours
Factors	8 hrs							
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	40.00	Hours
Factors	40 hrs							
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	35.615.29	Dollars
Factors	42110.4 sub/c support							
						0.84576 [SYS 061400	01 .84576000 - \$	System
A5H	SUBCONTRACTED SRVS	S020	ENVIRONMENTAL SCIENTISTS	K266S	Envir. Safetv. Health & Quality	Linear	1.691.52	Dollars

Factors 2000 \$ Develop seed mixture/supervise

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
Į	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.338.18	Dollars
	Factors	1338.18 Dollars							
Į	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	867.15	Dollars
	Factors	867.150 Dollars							

WBS No: 1GAB	0301 Title: Group SW-1 (Ash Pits)											
Activity ID: 1GC	M940000 Description: Decision Document Prep - G	roup SW-1						Cost Risk	2 Schedule R	risk 3		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
1000	PAM	1.00	each	EE	740	740	22.244	0	0	22.244	7.696	29.940
978	Contingency And Escalation	1.00	63	FF	٥	0	0	0	8 384	8 384	0	8 384

Line Item 1000 - PAM

Estimator's Experience based generally on historical data for Ryan's Pit BOE

Preparation of PAM in support of source removal of a previously characterized IHSS.

Breakdown of Cost Data:

Item: Preparation of PAM for Ryan's Pit source removal action modified to include GIS support.

Total for Activity 1GCM940000:

Units: hours

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22.244

740

Starts In FY *

0.84576 [SYS 061400] .84576000 - System

30.628

7.696

38.324

8.384

WBS No: 1GAB0301 Rocky Flats Closure Project 1GCM940000 Activity ID: **Baseline Cost and Basis of Estimate** Proiect WBS Filter

Baseline Devl 1GAB

Starts In FY

Activity Filter 40 hours GIS support, 72 hours project manager technical support, 628 hours for technical staff to write document. Unit Cost Adjustment Factor: None Revised Unit Hours: None

Basis for adjustment. None

Resources

es		Cost Element		Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	628.00 Hours
-	Factors	628 hrs						
	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	72.00 Hours
	Factors	72 hrs	-' 					
	750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	40.00 Hours
		40	=	•				•

Line Item SYS - Contingency And Escalation

BOE

Resources

Line Item

es		Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	6.087.89	Dollars
	Factors	6087.89 Dollars							
	FSC	ESCALATION	0000	NONE	7DEPT	No Department	Linear	2 295 96	Dollars

Labor

Hours/Unit

120

Labor Hours

Total

120

120

0

3.205

BOE

Type

EE

EE

Factors 2295.96 Dollars

PAM revision

Activity ID: 1GCM940007 Description: Decision Doc Revision - Group SW-1

Contingency And Escalation

Description

	Cost Risk	2 Schedule R	isk 3		
Labor Cost	Materials/ Sub	0 2	Total Prime	Burden Cost	Total Cost
Total	Cost	& Escalation	Cost		
3.205	0	0	3.205	1.109	4.314
0	0	1 208	1 208	0	1 208

4.413

1.109

5.522

Line Item 010 - PAM revision

BOE

010

SYS

Based on previous projects, minimal changes to the PAM will be required and will take approximately one week to resolve. Two environmental engineers full time = 80 hours

1.00 each

Total for Activity 1GCM940007:

1.00 ea

Units

Quantity

Secretarial support for reformatting, copying, and editing = 20 hours

GIS support for redoing maps = 20 hours.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00	Hours
	Factors	. 80 h							
	750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	20.00	Hours
	Factors	20 h	-' 						
	750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	20.00	Hours
	Factors	20 h							

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
L	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	877.18	Dollars
1	Factors	877.179 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	330.81	Dollars

330.815 Dollars Factors

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	procurement & field prep	1.00	each	EE	369	369	10.177	4.229	0	14.406	3.521	17.927
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	4.970	4.970	0	4.970
	Tot	369	10,177	4,229	4,970	19,376	3,521	22,897				

Line Item 0100 - procurement & field prep

Estimator's Experience based on other remedial action preparation. BOE

1 Schedule Risk

Cost Risk

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

```
Prepare Statement of Work, Conflict of Interest Documentation, Proposal Technical Evaluation, Contract Negotiations, Davis-Bacon Determination, Radiological
Work Permit, Ecology Survey/NEPA Support, and Utility Clearance/Soil Disturbance Permit.
Breakdown of Cost Data:
Item: Site Labor to perform above individual tasks for based on similar projects
  Units: hours
  Unit Cost:
  Unit Cost Adjustment Factor: na
  Revised Unit:
Prepare procurement paperwork: statement of work, Davis Bacon, purchase req, etc. = 40 hours proj mgr, 80 hours env engr. 10 hrs secretary
Bid review and negotiation = Compliance 9 hrs, Secretary 20 hrs, Proj Mgr 60 hrs, env engr 60 hrs, QA 10 hrs, Rad Engr 10 hrs, Industrial Hygiene 10 hrs,
Safety 10 hours, Compliance 10 hrs
Utility clearance 9 hrs KH Construction
NEPA support, Ecology review and survey = $5,000 A5H
RWP = 40 hours RCT and foreman
80 hrs project planner
M010 - Project Manager = 100 hrs
E050 - Environmental Engineer = 140 hrs
E120 - Safety Engineer 10 hrs
P080 - Rad Engineer = 10 hrs
P090 - Industrial Hygiene = 10 hrs
T060 - RCT = 40 hrs
G010 - Secretarial Support 30 hrs
E130 - Other Engineers (Plant Excavation Specialists) = 9 hrs
E110 - Quality Assurance 10 hrs
P050 - Compliance specialists 10 hrs
Item: Subcontractor costs to perform above individual tasks for either Ryan's Pit or T-3/T-4.
  Units: 1 lot
  Unit Cost: $10K
  Unit Cost Adjustment Factor:
  Revised Unit:
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions
```

Resources

	11115	estimate includes a project pro	aucciv	rey/erriciency ractor for comm	irccea b				
ces		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	140.00	Hours
	Factors	140 hrs							
	750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	10.00	Hours
	Factors	10 hrs							
	750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	R100S	RMRS Salaried	Linear	10.00	Hours
	Factors	10 hrs							
	750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K260S	Site Operations	Linear	9.00	Hours
	Factors	9 hrs - Diggers							
	750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	30.00	Hours
	Factors	30 hrs							
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	100.00	Hours
	Factors	100 hrs							
	750	STRAIGHT TIME BASE	P050	COMPLIANCE INSPECTORS	R100S	RMRS Salaried	Linear	10.00	Hours
	Factors	10 hrs							

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Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter

1GAB

Baseline Devl

		Buccinio Coct ui	-u <u> </u>	Activity Fil	ter *	Starts In FY *
750 STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	10.00 Hours
Factors 10 hs				T		
750 STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	10.00 Hours
Factors 10 hrs						
750 STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	40.00 Hours
Factors 40 hrs - RCTs						
A5H SUBCONTRACTED SRVS	0000	NONE	K266S	Envir, Safety, Health & Quality	Linear	4.228.80 Dollars
E						

Factors 5000 \$

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es	Cost Element Skill			Department	Curve	Quantity	Units		
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3.595.47	Dollars
	Factors	3595.47 Dollars							
		ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.374.74	Dollars

Factors 1374.74 Dollars

cription: Field Document Prep - Group SW-1

Cost Diele 1 Cahadula Diek

ACTIVITY ID. TGC	Description. Field Document Flep - Grou	ip Svv-i						Cost Risk	Schedule I	lisk		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0010	Sampling and Analysis Plan	1.00	each	EE	340	340	10.389	0	0	10.389	3.595	13.983
0025	Health and Safety Plan	1.00	each	HC	50	50	1,684	6.089	0	7.773	583	8.356
0050	Field Implementation Plan	1.00	each	HC	60	60	1.922	14.716	0	16.639	665	17.304
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	10.991	10.991	0	10.991
Total for Activity 1GCM940035:							13.995	20.806	10.991	45.792	4.842	50.634

Line Item 0010 - Sampling and Analysis Plan

BOE

The Sampling and Analysis Plan directs the collection of field data. The objective of the Sampling and Analysis Plan is to delineate the specific data needs, sampling and analysis requirements, data handling procedures, and associated Quality Assurance/Quality Control requirements for the remedial action for the ash pits. This task is expected to be completed by Site Personnel.

Estimators Experience - 10 years experience estimating similar tasks Experience Item Desc - preparation of the sampling and analysis plan Breakdown of Cost Data:

Item: Prepare SAP address DOE and regulatory agency comments.

Units: hours

Unit Cost: 340

Unit Cost Adjustment Factor: none

Revised Unit Hours: 340

E050 Environmental Engineer 2.5 Weeks for document development

M040 Project Management 10% oversight of project

P090 Industrial Hygienist 1 week for HASP development

P080 Health Physicist 1 week for ALARA review and RWP

G010 Administrative 40 hours Secretarial support for document prep and distribution

Ello Quality Control Engineers 40 hours for document review and comment resolution

P070 Project Controls 40 hours planning and scheduling support based on similar projects.

Total = 340 hours

Basis for adjustment: None

Resources

s	Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	750 STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	100.00	Hours
Fa	ctors 100 hrs				_			
	750 STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
Fa	ctors 40 hrs							

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect B WBS Filter 10

Baseline Devl 1GAB

		Daseille Cost at	iu basis	OI ESTIMATE	Activity Filter	*	Starts In FY *
750 STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried		Linear	40.00 Hours
Factors 40 hrs							
750 STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried		Linear	40.00 Hours
Factors 40 hrs							
750 STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	R100S	RMRS Salaried		Linear	40.00 Hours
Factors 40 hrs							
750 STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried		Linear	40.00 Hours
Factors 40 hrs							
750 STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried		Linear	40.00 Hours
Factors 40 bro							

Factors 40 hrs Line Item 0025 - Health and Safety Plan

BOE

The subcontractor working on the pond sediment removal project must develop a Health and Safety Plan acceptable to the Site. This activity addresses the Health and Safety Plan for the remedial action for all of the ash pits. It was assumed that only one HASP would be sufficient to perform similar work for all the ash pits. This task will be performed by subcontract personnel with Site input.

Historical Data Source - Successful subcontract bid for the East Trenches Plume project.

Breakdown of Historical Data: Item - health and safety plan

Units - 1

Unit Cost - \$7,200 (from successful bidder)

Unit Cost Adjustment factor - none

Revised Unit Cost -Basis for adjustment

40 hours IH support and 10 hours rad engineer support are required based on previous experience with the East Trenches Plume Project.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	10.00	Hours
	Factors	10hrs							
	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	6.089.47	Dollars
		7000							

Factors 7200 d

0.84576 [SYS 061400] .84576000 - System

BOE

The Field Implementation Plan will delineate the placement of any soil stockpiles the limits of the remedial action and will identify the disposition process for any accumulated water. This activity will develop the Plan for the remedial action for all of the ash pits.

Historical Data Source - Successful Bid for East Trenches Plume Project

Item Desc - Field Implementation Plan

Breakdown of Historical Data:

Item - FIP

Line Item 0050 - Field Implementation Plan

Units - 1

Unit Cost - \$17,400 based on the subcontract bid.

Unit Cost Adjustment factor - none

Revised Unit Cost -

Basis for adjustment -

40 hours environmental engineer and 20 hours of project management support for document reviews, issue resolution will be required based on the East Trenches Plume project.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element Skill			Skill		Department	Curve	Quantity Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00 Hours
	Factors	40 h						

Rockv Flats Closure Project

Baseline Cost and Basis of Estimate

Project
WBS Filter
1GAB

Activity Filter
*

	*	Starts In FY	*								
750 STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	20.00	Hours				
Factors 20 hrs											
A5H SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	14.716.22	Dollars				

Factors 17400 d

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

1GAB0301

1GCM940035

BOE

BOE

WBS No:

Activity ID:

Resources

es	Cost Element		Skill		Department	Curve	Quantity	Units
L	CON	CONTINGENCY	0000 NONE	ZDEP	No Department	Linear	7.950.91	Dollars
_	Factors	7950.91 Dollars						
	ESC	ESCALATION	0000 NONE	ZDEP	Γ No Department	Linear	3.040.05	Dollars

Factors 3040.05 Dollars

Activity ID: 1GCM940040 Description: Readiness Assessment - Group SW-1 Cost Risk 1 Schedule Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	readiness assessment	1.00	each	EE	247	247	8.021	4.060	0	12.081	2.775	14.856
0200	training	1.00	each	EE	132	132	3.902	10.149	0	14.051	1.350	15.401
0300	pre-evolution meeting	1.00	each	EE	60	60	1.774	5.075	0	6.848	614	7.462
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	10.457	10.457	0	10.457
	Tot	Total for Activity 1GCM940040:						19.283	10.457	43.438	4.739	48.177

Line Item 0100 - readiness assessment

One readiness Assessment will be performed for the ashpits' remediation project. Estimator's Experience based generally on historical data for T-3/T4 Remediation.

Item Desc:

Conduct Readiness Assessment in support of source removal action.

Breakdown of Cost Data:

Item: Based on Site Labor used to perform Readiness Assessment for T-3/T-4.

Units: hours

Unit Cost: 247

Unit Cost Adjustment Factor: none

Revised Unit: na

Item: Subcontractor costs to perform Readiness Assessment for T-3/T-4.

Units: 1 lot

Unit Cost: \$4.8K

Unit Cost Adjustment Factor: none

Revised Unit: na

Basis for adjustment. None

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element		Skill		Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	132.00 Hours
Factors	132 hrs				T		
750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	79.00 Hours
Factors	79 hrs				T		
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	22.00 Hours
Factors	22 hs		1				
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	14.00 Hours
Factors	14 hrs				T	T	
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	4.059.65 Dollars

Factors 4800 sub/c support

0.84576 [SYS 061400] .84576000 - System

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

Line Item 0200 - training

BOE

Estimator's Experience based generally on historical data for T-3/T4 Remediation.

Item Desc:

Conduct perform Training in support of source removal action.

Breakdown of Cost Data:

Item: Site Labor to perform above individual tasks for T-3/T-4.

Units: hours

Unit Cost: 132 Hours

Unit Cost Adjustment Factor: none

Revised Unit: na

Item: Subcontractor costs to perform above individual tasks for T-3/T-4.

Units: 1 lot

Unit Cost: \$12K

Unit Cost Adjustment Factor: Subcontract labor force is expected to be Site Steelworkers. However, RCTs may be Bartlett techs which will be A5H.

Therefore, these costs were left as A5H dollars.

Revised Unit: na

Basis for adjustment.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	132.00	Hours
F	actors	132 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	10.149.12	Dollars

Factors 12000 sub/c support

0.84576 [SYS 061400] .84576000 - System

Line Item 0300 - pre-evolution meeting

BOE

Estimator's Experience based generally on historical data for T-3/T4 Remediation.

Item Desc

Conduct Pre-Evolution Meeting in support of source removal action

Breakdown of Cost Data: Item: Site Labor to perform above individual tasks for T-3/T-4.

Units: hours

Unit Cost: 60 hours

Unit Cost Adjustment Factor: none

Revised Unit: na

Item: Subcontractor costs to perform above individual tasks for T-3/T-4.

Units: 1 lot

Unit Cost: \$6K

Unit Cost Adjustment Factor: none

Revised Unit: na

Basis for adjustment.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element	Skill			Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	60.00	Hours
-	Factors	60 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	5.074.56	Dollars

Factors 6000 sub/c support

0.84576 [SYS 061400] .84576000 - System

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY

Line Item SYS - Contingency And Escalation

BOE

Resources	Cost Element	Skill	Department	Curve	Quantity Units
	CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	7.565.00 Dollars
	Factors 7565 Dollars				
	ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	2.892.50 Dollars

Factors 2892.5 Dollars

Activity ID: 1G0	Description: Remedial Action - Group S	W-1						Cost Risk	2 Schedule R	isk 3		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	mobilization	1.00	each	HC	260	260	7.461	38.905	0	46.366	2.344	48.710
0200	site prep	1.00	each	HC	140	140	4.316	8.458	0	12.773	1.356	14.129
0300	excavation	1.00	ea	HC	38.001	38.001	1.007.436	405.978	0	1.413.414	316.538	1.729.951
0600	sampling	1.00	each	VQ	0	0	0	149.791	0	149.791	0	149.791
0700	prepare waste acceptance forms	1.00	each	EE	80	80	2.365	0	0	2.365	743	3.108
0900	field oversiaht & proiect mamt	1.00	each	EE	2.464	2.464	73.667	4.229	0	77.896	23.146	101.042
1000	backfill	1.00	each	TP	0	0	0	135.326	0	135.326	0	135.326
1100	regrade and revegetate	1.00	each	HC	88	88	2.662	37.307	0	39.969	836	40.805
1200	demobilization	1.00	each	HC	230	230	7.032	40.174	0	47.205	2.209	49.415
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	482.039	482.039	0	482.039
	To	tal for Activit	y 1GCM940	050:		41.263	1.104.938	820.166	482.039	2.407.143	347.173	2.754.316

Line Item 0100 - mobilization

BOE

Estimator's Experience based generally on historical data for T-3/T4 Remediation.

Item Desc: Mobilization in support of remediation.

Breakdown of Cost Data:

Item: Site Labor to perform above individual tasks for T-3/T-4.

It was estimated that mobilization would take 1 week. Two environmental engineer or similar people would take 50 hours each for these tasks, 40 hours plus 10 hours overtime. In addition it was estimated that an industrial hygienist and a radiological engineer would spend 20 hours each. Project management is full time, 40 hours, RCT support for baseline surveys is 80 hours (2 RCTs) Mobilization will include the baseline surveys for the equipment and trailer installation.

Units: hours
Unit Cost: 260

Unit Cost Adjustment Factor: none

Revised Unit: 260

Hours were assumed to be divided as follows:

Item: Subcontractor costs to perform above individual tasks for T-3/T-4. The subcontractor mobilization costs are based on the burdened costs for the T-3/T-4 project and consists mainly of setting up the thermal desorption treatment system. Because this project will not use thermal desorption, the costs were reduced to 25%. No further reduction was taken because contractor-supplied heavy equipment will be required for this project along with field trailer installation.

Units: 1 lot Unit Cost: 184k

Unit Cost Adjustment Factor: 0.25

Revised Unit: \$46,000

Basis for adjustment. 25% of the T3/T4 costs were used based on no thermal desorption for the ash pits, but more heavy equipment and field trailers.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element	Skill	Department	Curve	Ouantity Units
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	80.00 Hours
	Factors 90 hrs				

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB

		Baseline Cost an	ia Basis	of Estimate Activity Filter	*	Starts In FY *
750 STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	R100S	RMRS Salaried	Linear	20.00 Hours
Factors 20 Hours						
750 STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	40.00 Hours
Factors 40 hrs			,			
750 STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	20.00 Hours
Factors 20 hrs			,			
750 STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	80.00 Hours
Factors 80 hrs			,			
751 OVERTIME BASE & PRE.	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	20.00 Hours
Factors 20 overtime hrs			I			
A5H SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	38.904.96 Dollars
T						

Factors 46000 sub/c support

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Line Item 0200 - site prep

BOE

Estimator's Experience based generally on historical data for T-3/T4 Remediation.

Item Desc:

Site Preparation including setting up fencing, trailer, etc. Based on T3/T4, it was assumed that average project site preparation costs were about \$30,000 subcontract costs and would take 3 weeks. These subcontract costs were reduced by 2/3 because this project will not require thermal desorption. The time was reduced by 2/3 because the area is isolated and will require fewer project controls. No RCT support will be required because there are no intrusive activities.

Breakdown of Historical Data:

Item: Site Labor to perform site preparation activities.

Units:

One week for two Env Engineers 40 hrs + 10 hrs overtime each

One week for an Industrial Hygienist/Safety Engineer

Unit Cost: 120 hrs + 20 hrs overtime

Unit Cost Adjustment Factor: na

Revised Unit: na

Item: Subcontractor costs.
Units: Site prep costs

Unit Cost: \$10,000 Unit Cost Adjustment Factor: This is 1/3 the cost of the T3/T4 project

Revised Unit:

Basis for adjustment. Subcontract costs were reduced by 2/3 because this project will not require thermal desorption, the area is isolated and will require fewer project controls.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element	Skill			Department	Curve	Quantity	Units	
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00 He	lours	
Factor	s 80 hrs								
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	40.00 H	lours	
Factor	s 40 hrs								
751	OVERTIME BASE & PRE.	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	20.00 He	lours	
Factor	s 20 Hours								
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	8.457.60 De	ollars	

Factors 10000 sub/c support

0.84576 [SYS 061400] .84576000 - System

Line Item 0300 - excavation

BOE

Estimator's Experience based generally on historical data for T-3/T4 Remediation.

Item Desc: Excavation.

Avg Ash Pit Length 200 feet Avg Ash Pit Width 12 feet

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Rocky Flats Closure Project **Baseline Cost and Basis of Estimate**

Proiect WBS Filter Activity Filter

Baseline Devl 1GAB

Starts In FY

Avg Ash Pit Depth 10 feet Volume per Ash Pit =24,000 CF 1:1 Cutback 24,000 CF Per Pit 48,000 CF # of Pits 6 Total Volume = 288,000 CF Total Volume = 10,667 yards

The T3/T4 project took 6 months to excavate 3,800 cubic yards, a rate of 633 cubic yards per month. However, this project was more complex than the ash pits are assumed to be because of the presence of debris, drums and volatile organics. This increased the task duration because of the requirement to sort debris, handle materials for treatment, and perform additional monitoring. For the ash pit remedial action, it is assumed that there will be a 2.5 improvement in this rate due to the homogenity of the material, the ease of determining the difference between undisturbed soil and ash, the lack of handling for treatment and the absence of free product and liquid. The rate used for this project will be 1,600 cubic yards per month. Total duration will be 7 months or 140 working days. A work day of 12 hours will be required.

Breakdown of Historical Data:

Item: Site Labor to perform above individual tasks for T-3/T-4. The hours for an environmental engineer from T-3/T-4 were 1.09 hours per cubic yard of contaminated soil. Likewise the hours for the following were assumed to be linearly proportional:

1.09 hours per cubic yard Environmental Engineer Health Physicists 0.47 hours per cubic yard Industrial Hygienists 0.31 hours per cubic yard Radiological Control Technician 1.00 hour per cubic vard

For the estimated 10,667 cubic yards for this project, this would require:

Environmental Engineer 11,627 hours = about 10. However no more than 5 can be effectively utilized. This equals 5,600 regular work hours, 4 hours overtime * 5 * 140 = 2,800 overtime (751)

Health Physicists 5.014 hours

Industrial Hygienists 3,307 hours

RCTs 10,667 hours, or about 10 RCTs. This was reduced to 5 based on the nature of the project and the lack of treatment. 5 RCTs for 140 days * 8 hrs = 5,600 hours. Overtime = 4hrs/day * 140 days * 5 RCTs = 2,800 hours.

Steelworkers will perform the remedial action. Based on 15 hours RCT time for 19 hours steelworker time as was estimated from T-1 costs, the estimated number of steelworkers is (5600/15)*19 = 7093 hrs = 6.3 steelworkers. Rounding to 7 steelworkers, this will equate to 7 * 140 days * 8 hrs/day = 7,840 regular hours and 7 * 140 days * 4 hours = 3,920 overtime hours.

Project managers will be required full time for 140 days = 8*140 = 1,120 hours

Item: The subcontract excavation cost was based on the excavation cost for the T-3/T-4 Project. The excavation costs for T-3/T-4 actuals were \$171,487 for excavation of 3,800 cubic yards of contaminated soil, for a unit cost of \$45 per cubic yard of contaminated soil removed. This estimate includes the removal of overburden that might be on top of the contaminated soil.

Units: 10,667 cubic vards Unit Cost: \$45/cubic vard Unit Cost Adjustment Factor: none Revised Unit: Total subcontract costs = 10,667 * \$45/cy = \$480,015

Basis for adjustment. Using the provided guidance, approximately 19% of the subcontract costs were for the steelworkers. Based on this

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

S Cost Element	Skill	Department	Curve	Quantity Units
750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	5.600.00 Hours
Factors 5600 hrs				
750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	1.120.00 Hours
Factors 1120 hrs				
750 STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear	5.014.00 Hours
Factors 5014 hrs				
750 STRAIGHT TIME BASE	P090 INDUSTRIAL HYGIENISTS	R100S RMRS Salaried	Linear	3.307.00 Hours
Factors 3307 hrs				
750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIG	KG10H Remediation Steelworkers	Linear	5.600.00 Hours
Factors 5600 hrs				

Rocky Flats Closure Project

Baseline Devl Proiect 1GAB WBS Filter

	Baseline Cost and Basis of Estimate						Starts In FY	*
750 STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KG10H	Remediation Steelworkers		Linear	3.920.00 ⊢	lours
Factors 3920 hrs								
750 STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KG10H	Remediation Steelworkers		Linear	7.840.00 H	lours
Factors 7840 hrs			, ,					
751 OVERTIME BASE & PRE.	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried		Linear	2.800.00 ⊢	lours
Factors 2800 overtime hours			, ,					
751 OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers		Linear	2.800.00 ⊢	lours
Factors 2800 Hours			, ,					
A5H SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs		Linear	405.977.50 D	ollars
Factors 480015 \$								

Factors 480015 \$

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Line Item 0600 - sampling

BOE

Estimator's Experience based generally on historical data for T-3/T4 Remediation.

Item Desc: Sampling costs are based on the samples collected for T3/T4. However, unlike Trenchs T3/T4, a more homogenous waste was disposed in the ash pits. Contamination is expected to be more consistent, the underlying soils are not expected to be contaminated, and so 40 total samples will be collected for each of the 6 ash pits. These samples will be used both for waste characterization and for confirmation samples and also include the QA/QC samples for this project. These will only be analyzed for the following analytes:

240 rad screens to determine the appropriate sample shipment offsite to analytical labs

240 isotopic uranium analysis

240 metals for waste disposal uses.

Vendor Name - KH ASD

Vendor Quote - costs provided during baseline development

Ouote Received by - A. Primrose

Date Received - 4/28/00

Item being quoted - sample costs

720 sample bottles at \$7 each = \$5,040

Shipping at \$42 for 10 bottles. There will be 72 groups of 10 bottles times \$42 = \$3,024

240 rad screens at \$32 each = \$7,680

240 isotopics at \$295 (\$590 reduced by 50% for only uranium) each = \$70.800

240 metals at \$345 each = \$82,800

Data validation will be done for 3 sets of 20 samples each

12 metals Data validation cost for > 11 samples at \$335 each = \$4,020

12 rad data validation costs for >11 samples at \$312 each = \$3,744

Total Cost \$177,108

Availability - ves

Note: The cost of collecting the samples are assumed to be included in the excavation costs.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resource

ces		Cost Element	ment Skill			Department	Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K267S	Analytical Laboratory Services	Linear	149.790.90	Dollars

Factors 177108 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 0700 - prepare waste acceptance forms

BOE

Estimator's Experience based generally on historical data for T-3/T4 Remediation.

Item Desc: Preparation of Waste Acceptance Forms: Based on t3/T4, it was estimated that each project would take two weeks of environmental engineering time (80 hours) to prepare these forms. No overtime will be required.

Resources	Cost Element	Skill	Department	Curve	Ouantity Unit	its
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	80.00 Hours	3

Factors 80 hrs

Line Item 0900 - field oversight & project mgmt

Estimator's Experience based generally on historical data for T-3/T4 Remediation. BOE Item Desc: Field Oversight and Project Management

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Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

```
Breakdown of Historical Data:
Item: Site Labor
  Units: hours
  Unit Cost: 140 days with one fulltime project manager = 140*8 = 1,120 hrs
               Planner = 1/2 FTE for project planning support, budget and scope tracking
               Secretary = 1/2 FTE, required for transmitting records, credit card purchase
               Ouality Assurance = 1/10 FTE = 112 hours
               Compliance Support = 1/10 FTE = 112 hours
  Unit Cost Adjustment Factor: none
  Revised Unit: none
Item: Subcontractor costs to provide Ecology Support
  Unit Cost: Ecology support generally costs approximately $5,000 per project
  Unit Cost Adjustment Factor: na
  Revised Unit: na
Basis for adjustment.
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.
```

Resources

Cost Element	Skill	Department	Curve	Quantity Units
750 STRAIGHT TIME BASE	E110 QUALITY CONTROL ENGINEE	RS R100S RMRS Salaried	Linear	112.00 Hours
Factors 112 hrs				
750 STRAIGHT TIME BASE	G010 ADMINISTRATIVE ASSISTANT	S R100S RMRS Salaried	Linear	560.00 Hours
Factors 560 hrs				
750 STRAIGHT TIME BASE	M040 MANAGERS (GRADE 64 - 68)	R100S RMRS Salaried	Linear	1.120.00 Hours
Factors 1120 hrs				
750 STRAIGHT TIME BASE	P050 COMPLIANCE INSPECTORS	R100S RMRS Salaried	Linear	112.00 Hours
Factors 112 hrs				
750 STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNER	RS AN K265S ER Programs	Linear	560.00 Hours
Factors 560 hrs				
A5H SUBCONTRACTED SRVS	S020 ENVIRONMENTAL SCIENTIST	S K266S Envir. Safetv. Health & Quality	Linear	4.228.80 Dollars

Factors 5000 \$

0.84576 [SYS 061400] .84576000 - System

BOE Trade Pt

```
Trade Publication Means 1995, Site Work & Landscape Cost Data (page 34, 42, and 34)
Item Desc: Backfill.
Breakdown of Historical Data:
Item: Site Labor to perform above individual tasks for T-3/T-4.
  Units: hours
  Unit Cost: Backfill will take place concurrent with excavation. No additional Site labor will be utilized.
  Unit Cost Adjustment Factor: none
  Revised Unit: none
Item: Subcontractor costs to perform above individual tasks for T-3/T-4. Backfill costs were taken form Means (1995) Site Work & Landscape Cost Data as
follows:
Cost Reference
Common Fill $ 4.77/cubic yard (page 34 Borrow Bank Measure)
Hauling $ 3.98/cubic yard (page 42 2-mile round-trip, 6 cubic yard dump truck)
Backfilling $ 1.69/cubic yard (page 34)
Burden (43%)$ 4.49/cubic yard
Total $14.23/cubic yard or about $15/cubic yard
With 10,667 cubic yards of backfill required, this equals $160,005
```

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1GAB0301 Baseline Devl Proiect **Rocky Flats Closure Project** 1GCM940050 WBS Filter 1GAB **Baseline Cost and Basis of Estimate** Activity Filter

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources Cost Element

Department Curve Units K265S ER Programs A5H SUBCONTRACTED SRVS 0000 NONE Linear 135.325.80 Dollars

160005 Dollars Factors

0.84576 [SYS 061400] .84576000 - System

Starts In FY

Line Item 1100 - regrade and revegetate

WBS No:

Activity ID:

BOE

Historical Data Source - This estimate is from on the Trench 1 regrade revegetation costs from FY00. It is assumed that the area and level of effort will be the same for this project as for Trench 1. The vendor was Custom Services of Colorado. Supplier of dirt was Pioneer Sand Company, Inc.

Item Desc -Breakdown of Historical Data: Item A5H Subcontracts

1 month rental Port-o-let \$70 1 month rental Hand-wash \$50 1 week front Loader \$3,175 1 week 140H grader with ripper \$2,315 Mobilization charge \$600 Topsoil \$10/ton * 2,373 tons \$23,730 Seed mixture \$9.63 lb * 80 lbs \$770.40 Mulch/Soil Guard \$1.20 lb * 6,600 \$7,920 Labor \$3,480

TOTAL \$42,110.40

Site Support

A5H Site Ecology Group support \$2,000 Full time Proj manager support 40 hours Full time h&S support 40 hours Compiance/QA inspectors 8 hours

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

Cost Element		Skill		Department	Curve	Quantity Units
750 STRAIGHT TIME BASE	M010 FOR	REMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	40.00 Hours
Factors 40 hrs						
750 STRAIGHT TIME BASE	P050 CON	MPLIANCE INSPECTORS	R100S	RMRS Salaried	Linear	8.00 Hours
Factors 8 hrs						
750 STRAIGHT TIME BASE	P090 INDI	USTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	40.00 Hours
Factors 40 hrs						
A5H SUBCONTRACTED SRVS	0000 NON	NE	K265S	ER Programs	Linear	35.615.29 Dollars
Factors 42110.4 sub/c support						

0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS S020 ENVIRONMENTAL SCIENTISTS K266S Envir. Safety, Health & Quality 1.691.52 Dollars Linear

2000 \$ Develop seed mixture/supervise Factors

0.84576 [SYS 061400] .84576000 - System

Line Item 1200 - demobilization

BOE

Estimator's Experience based generally on historical data for T-3/T4 Remediation.

Item Desc: Demobilization.

Breakdown of Historical Data: The subcontractor cost for demobilization was about \$95,000 for 3,800 cubic yards at the T-3/T-4 project. In addition it was estimated that the following hours were necessary:

Environmental Engineer 300 hours Health Physicist 1.00 hours Environmental Operations 200 hours Industrial Hygiene 100 hours

However, the thermal desorption treatment unit was also demobilized at the same time. Removal of equipment and materials from the ash pit job site is

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Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Baseline Devl 1GAB

Activity Filter * Starts In FY

expected to require only 1/3 of the resources as no treatment unit will be demobilized. Revised costs are as follows:

Subcontract costs (A5H) = 47,500

Environmental Engineer 170 hours
Health physicist 30 hours
Industrial Hygiene 30 hours

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Quantity

Units

1.00 each

Total for Activity 1GCM940060:

1.00 ea

Resources

s	Cost Element		Skill		Department	Curve	Quantity Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	170.00 Hours
Factors	170 hrs					_	
750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	30.00 Hours
Factors	30 hrs						
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	30.00 Hours
Factors	30 hrs					_	
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	40,173.60 Dollars
Enstann	47E00 aub/a aupport						

Factors 47500 sub/c support

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

Line Item

es		Cost Element		Skill		Department	Curve	Ouantity	Units
Į	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	286.306.10	Dollars
	Factors	286306 Dollars							
Į	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	195.733.00	Dollars

Labor

Hours/Unit

328

Labor Hours

Total

328

328

0

8.980

BOE

Type

EE

EE

Factors 195733 Dollars

develop report

Contingency And Escalation

Activity ID: 1GCM940060 Description: Prepare Closeout Report - Group SW-1

Description

Cost Risk 1 Schedule Risk

710

Labor Cost Materials/ Sub Contingency Total Prime Burden Cost Total Cost & Escalation **Total** Cost Cost 8.980 710 9.691 2.532 12.223 0 1.745 1.745 0 1.745

1.745

11.436

2.532

13.969

Line Item 0100 - develop report

BOE

0100

SYS

Estimator's Experience on similar projects

Item Desc:

Closeout report is required to document the remedial action including GIS representation of data. The report will take 2 weeks to develop, although reviews and minor revisions will take much longer.

Breakdown of Cost Data:

Item: Develop Documentation

Units: hours

Unit Cost:

Environmental Engineer full time 2 weeks 80 hrs
Project Manager full time 2 weeks 80 hrs
Secretary full time 2 weeks 80 hrs
GIS map technician 80 hrs
QA oversight 8 hrs
cost estimator 20 hrs

Unit Cost Adjustment Factor: none

Revised Unit Hours: 348

Basis for adjustment.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

 Resources
 Cost Element
 Skill
 Department
 Curve
 Quantity
 Units

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WBS No: 1GAB0301 Baseline Devl Proiect Rocky Flats Closure Project 1GAB Activity ID: 1GCM940060 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 750 STRAIGHT TIME BASE E050 ENVIRONMENTAL ENGINEERS R100S RMRS Salaried 80.00 Hours Linear 80 hrs E110 QUALITY CONTROL ENGINEERS R100S RMRS Salaried 750 STRAIGHT TIME BASE 8.00 Hours Linear hrs 750 STRAIGHT TIME BASE G010 ADMINISTRATIVE ASSISTANTS R100S RMRS Salaried Linear 80.00 Hours Factors 80 hrs 750 STRAIGHT TIME BASE M040 MANAGERS (GRADE 64 - 68) 80.00 Hours R100S RMRS Salaried Linear 80 hrs Factors 750 STRAIGHT TIME BASE R100S RMRS Salaried 80.00 Hours P060 COMPUTER SYSTEMS ANALYSTS Linear 80 hrs Factors P070 COST ESTIMATORS PLANNERS AN K265S ER Programs 710.44 Dollars A5H SUBCONTRACTED SRVS Linear Factors 20 estimated \$/hr 0.84576 [SYS 061400] .84576000 - System Line Item SYS - Contingency And Escalation BOE Resources Cost Element Skill Department **Ouantity** Units Curve CON CONTINGENCY 0000 NONE ZDEPT No Department 571.70 Dollars Linear 571.702 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department Linear 1.173.65 Dollars Factors 1173.65 Dollars Activity ID: 1GCM940080 Description: Project Management - Group SW-1 Cost Risk 1 Schedule Risk Line Item Description Quantity Units BOELabor Labor Hours Labor Cost Materials/ Sub Contingency Total Prime Burden Cost Total Cost Type Hours/Unit **Total Total** Cost & Escalation Cost EE 28.470 010 Project management 1.00 each 2.703 2.703 88.209 16.091 0 104.301 132.771 SYS Contingency And Escalation 1.00 ea FF 29.487 29.487 29.487 0 Total for Activity 1GCM940080: 2.703 88.209 16.091 29.487 133.788 28.470 162.258 Line Item 010 - Project management Project management will be a year long function and will support the other tasks. Items included in this task include presentations to management, BOE regulatory agencies and the public, development of briefing materials, cost and schedule control, regular reporting of progress along with cost schedule and or other issues, and project oversight. Hours are based on what is required to run projects such as T-1, T3/T4 and Mound remedial actions. Included are: Full time project manager 1/4 FTE secretary 1/4 FTE budget control specialist 1/8 FTE OA support 1/8 FTE compliance support This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions. Units Resources Cost Element Denartment Curve Quantity 750 STRAIGHT TIME BASE E110 QUALITY CONTROL ENGINEERS R100S RMRS Salaried 220.00 Hours Linear 220 hrs 453.00 Hours STRAIGHT TIME BASE G010 ADMINISTRATIVE ASSISTANTS R100S RMRS Salaried Linear 750 453 hours 1.810.00 Hours R100S RMRS Salaried 750 STRAIGHT TIME BASE M040 MANAGERS (GRADE 64 - 68) Linear 1810 Hours 750 STRAIGHT TIME BASE P050 COMPLIANCE INSPECTORS R100S RMRS Salaried Linear 220.00 Hours 220 P070 COST ESTIMATORS PLANNERS AN K265S ER Programs 16.091.43 Dollars SUBCONTRACTED SRVS Linear 453 estimated \$/hr Factors hrs 0.84576 [SYS 061400] .84576000 - System Line Item SYS - Contingency And Escalation BOE Cost Element Units Resources Skill Curve Quantity Department

WBS No: 1GAB0301 Baseline Devl Proiect **Rocky Flats Closure Project** 1GAB Activity ID: 1GCM940080 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 18399.1 Dollars

ESC ESCALATION 0000 NONE ZDEPT No Department Linear 11.088.34 Dollars

WBS No: 1GAB	0401 Title: Group 900-11 (903 Pad)											
Activity ID: 1GE	FR11110 Description: South East Area Project Sco	ping						Cost Risk	3 Schedule R	risk 3		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Scoping Activity	2.00	wk	EE	80	160	4.946	4.939	0	9.886	2.359	12.245
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	661	661	0	661
	Tot	al for Activi	tv 1GEFR11	110:		160	4.946	4.939	661	10.546	2.359	12.906

Line Item 10 - Scoping Activity

BOE

Estimator's Experience - Estimator has 6 years experience scoping similar projects.

Experience Item Desc - 903 Drum Storage, 903 Lip Area, and Americium Zone Sampling and Analysis Plan

Breakdown of Cost Data:

Item - Labor hours, subcontractor dollars

Units - labor hours per week, subcontract dollars per week

Unit Cost - 80 labor hours, \$2,920 Subcontract dollars (2 week activity duration)

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

This BOE assumes one environmental scientist and one environmental engineer are required per week for the duration of the scoping activity (2 weeks).

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element			Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRON	IMENTAL ENGINEERS	R100S	RMRS Salaried	L	inear	40.00 H	Hours
	Factors	40 Hours		_ 1	Environmental Engineer						
	750	STRAIGHT TIME BASE	S020	ENVIRON	IMENTAL SCIENTISTS	R100S	RMRS Salaried	L	inear	40.00 H	Hours
	Factors	40 Hours		_ 1	Environmental Scientist						
	A5H	SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs	L	inear	2.469.62	Dollars
	Factors	73 Dollars		1	Subcontract Engineer		40 hours per week				

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	403.36	Dollars
	Factors	403.363 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	257.49	Dollars

Factors 257.487 Dollars

Activity ID: 1GEFR11120 Description: Prepare IHSS 140 SAP Cost Risk 2 Schedule Risk

ACCUPACY ID.	2 TO CALL							Cost Hist	_ beneaute 1	_		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Prepare SAP	1.00	each	EE	136	136	3,804	9,878	0	13,683	1,815	15,497
SYS	Contingency And Escalation	1.00	ea ea	EE	0	0	0	0	829	829	0	829
	To	tal for Activ	itv 1GEFR1	1120:		136	3.804	9.878	829	14.511	1.815	16.326

Line Item 10 - Prepare SAP

BOE

Estimator's Experience - Estimator has 6 years experience preparing similar documents

Experience Item Desc - 903 Drum Storage, 903 Lip Area, and Americium Zone Sampling and Analysis Plan

Breakdown of Cost Data:

Item - Labor hours, subcontractor costs

Units - Lot

Unit Cost - 176 labor hours, \$11,680 subcontract dollars

Unit Cost Adjustment factor -

Revised Unit Cost -

Starts In FY

0.84576 [SYS 061400] .84576000 - System

18.399.13 Dollars

WBS No: 1GAB0401 Activity ID: 1GEFR11120

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Activity Filter

Baseline Devl 1GAB

Starts In FY

Basis for adjustment -

This BOE assumes an environmental engineer at 1/4 time per month, and one computer system analysts is required 1/2 time per month. It also assumes that a QC engineer is required 16 hours per month to support the contractor prepared SAP.

This BOE includes one subcontract FTE 160 hours per month to prepare the SAP. This activity has a duration of one month

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s		Cost Element		Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00 Hours
	Factors	160 Hours		0.25 month				
	750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	16.00 Hours
	Factors	160 hours		0.1 month				
	750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	80.00 Hours
	Factors	160 Hours		0.5 month	,			
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	9.878.48 Dollars
	Factors	73 Dollars		1 engineer		160 hours per month		

engineer 160 hours per month

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

Line Item

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	502.88	Dollars
	Factors	502.884 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	325.87	Dollars

Labor

Hours/Unit

80

0

Labor Hours

Total

80

0

80

Labor Cost

Total

2.198

2.198

325.872 Dollars Factors

Activity ID: 1GEFR11135

Description: Incorporate Agency Comments-IHSS 140 SAP

Cost Risk 2 Sahadula Piek

Cost Risk	3 Schedule K	isk 3		
Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
4.939	0	7.138	1.049	8.186
0	442	442	0	442

7.579

1.049

8.628

Line Item 10 - Resolve Comments/Revise SAP

BOE

10

SYS

Estimator's Experience - Estimator has 6 years experience preparing similar documents Experience Item Desc - 903 Drum Storage, 903 Lip Area, and Americium Zone Sampling and Analysis Plan Breakdown of Cost Data:

Ouantity

1.00 each

Total for Activity 1GEFR11135:

1.00 ea

Units

BOE

Type

EE

FF

Item - Labor hours, subcontractor costs

Units - Lot

Unit Cost - 80 labor hours, \$5,840 subcontract dollars

Description

Unit Cost Adjustment factor -

Resolve Comments/Revise SAP

Contingency And Escalation

Revised Unit Cost -

Basis for adjustment -

This BOE includes hours for a computer systems analysts, and a environmental engineer half time for two weeks to incorporate comments from the agency review period. Also provides a subcontract engineer 80 hours over this duration.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element Skill		Skill	Department		Curve	Quantity Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00 Hours
Factor	s 160 Hours		0.25				
750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	40.00 Hours
Factor	s 160 Hours		0.25				
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	4.939.24 Dollars
Factor	s 73 Dollars		1 Engineer		80 hours per month		

0.84576 [SYS 061400] .84576000 - System

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WBS No: 1GAB0401 1GEFR11135 Activity ID:

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Starts In FY

Line Item SYS - Contingency And Escalation

Resources	Cost Element		Skill	Department	Curve	Quantity	Units
	CON CONTINGENCY	0000	NONE	ZDEPT No Department	Linear	269.66	Dollars
_	Factors 269.663 Dollars						
	ESC ESCALATION	0000	NONE	ZDEPT No Department	Linear		Dollars

Factors 172.139 Dollars

Activity ID: 1GE	PR11140 Description: Procure IHSS 140 Character		Cost Risk 1 Schedule Risk 1									
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Procument MTS Contractor	1.00	each	EE	80	80	2.317	0	0	2.317	1.105	3.422
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	181	181	0	181
	Tot	al for Activi	ity 1GEFR11	140:		80	2.317	0	181	2.498	1.105	3.603

Line Item 10 - Procument MTS Contractor

BOE

Estimators Experience - Estimator has requisitioned MTS subcontract support

Experience Item Desc - 903 Pad Characterization Report

Breakdown of Cost Data: Item - labor hours

Units - week

Unit Cost - 80 labor hours Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

This BOE provides procurement buyer and environmental engineer 40 hours per week to contact characterization subcontractor. The duration of this activity is

Resources

es	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	K265S	ER Programs	Linear	40.00	Hours
Factors	40 hours							
750	STRAIGHT TIME BASE	P030	BUYERS PROCUREMENT AND CON	K265S	ER Programs	Linear	40.00	Hours
Factors	40 Hours							

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element	Skill			Department	Curve	Quantity	Units	
	CON	CONTINGENCY	0000 NONE			No Department	Linear	109.46	Dollars	
	Factors	109.46 Dollars								
	FSC	ESCALATION	0000	NONE	ZDEDT	No Department	Linear	71.06	Dollare	

71.9552 Dollars

Activity ID: 1GI	EFR11160 Description: IHSS 140 Field Characterization	ation						Cost Risk	2 Schedule F	Risk 2		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Site Labor	4.00	wk	EE	200	800	20,050	0	0	20,050	9,564	29,614
20	Subcontractor Costs	1.00	each	EE	0	0	0	54,146	0	54,146	0	54,146
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	4,479	4,479	0	4,479
	Tot	tal for Activity 1GEFR11160:				800	20.050	54.146	4.479	78.675	9.564	88.239

Line Item 10 - Site Labor

BOE

Estimators Experience - Estimator has 6 years experience implementing SAPs Experience Item Desc - Implemented characterization SAP for the 903 Pad Breakdown of Cost Data:

Item - labor hours Units - hours per week

Unit Cost - 200 hours (4 week activity duration)

Unit Cost Adjustment factor -

Revised Unit Cost -

6/23/00 9:02:34 AM Page 58 of 182 OFFICIAL USE ONLY WBS No: 1GAB0401 1GEFR11160 Activity ID:

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Starts In FY *

Basis for adjustment -

This BOE provides an environmental engineer working full time and a health physicist, nuclear engineer, RCT foreman, and geologist at one-quarter time for the duration of the project. This activity is baselined for four weeks.

Resources

Ses Cost Element Skill Den							C	0	77
es L		Cost Element		SKIII		Department	Curve	Ouantity	Units
L	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
_1	Factors	40 Hours		1 Environmental Engineer					
L	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	R100S	RMRS Salaried	Linear	10.00	Hours
1	Factors	40 Hours		0.25 Rad Safety ALARA Job Rev	iw				
	750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	K265S	ER Programs	Linear	10.00	Hours
1	Factors	40 Hours		0.25 RCT Foreman					
L	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	10.00	Hours
1	Factors	40 Hours		0.25 IH	,				
L	750	STRAIGHT TIME BASE	S030	GEOLOGISTS	K100S	Kaiser-Hill	Linear	10.00	Hours
1	Factors	40 Hours		0.25 Geologist - Survey Borehole	S				
L	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	120.00	Hours
1	Factors	40 Hours		3 RCT					

Line Item 20 - Subcontractor Costs

BOE

Estimators Experience - Estimator has 6 years experience implementing SAPs Experience Item Desc - Implemented characterization SAP for the 903 Pad

Breakdown of Cost Data: Item - subcontract dollars Units - dollar per month Unit Cost - \$63,400 dollars Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -

This BOE provides two Subcontract FTEs two months one in field and one to prepare for field effort including training, Readiness Assessment, procurement of supplies and coordination of sampling and site resources.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill			Department		Curve	Ouantity	Units
Į	A5C	SUPPLIES	0000	NONE		K265S	ER Programs		Linear	3.400.00	Dollars
e	Factors	17 Dollars		5	Men PPE		2 Pairs per dav	20	davs per mont	h	
Į	A5H	SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs		Linear	50.745.60	Dollars
	Factors	30000 Dollars		2	2 FTEs 2 months and \$5K of	of ODCs					

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2.717.99	Dollars
	Factors	2717.99 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.761.27	Dollars

Factors 1761.27 Dollars

Activity ID: 1GE	FR11170 Description: IHSS 140 Lab Analysis	Cost Risk 1 Schedule Risk 1									
Line Item	Description	Quantity	Units BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
			Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Analytical Laboratory	1.00 eac	ch VQ	0	0	0	179.301	0	179.301	0	179.301
SYS	Contingency And Escalation	1.00 ea	EE	0	0	0	0	9.506	9.506	0	9.506
	To	tal for Activity 10	GEFR11170:		0	0	179.301	9.506	188.807	0	188.807

Line Item 10 - Analytical Laboratory

BOE

Vendor Name - K-H Analytical Services Division Vendor Quote - \$212,000

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WBS No: 1GAB0401 Activity ID: 1GEFR11170

Rocky Flats Closure Project Baseline Cost and Basis of Estimate Proiect Baseline Devl WBS Filter 1GAB Activity Filter

Starts In FY *

Quote Received by - Prepared by S. Paris based on spreadsheet identified below. Date Received -

Item being quoted - 120 rad iso analysis, 120 metals analysis, 120 VOC analysis

Other Info - Spreadsheet "analytical costs" provided by K-H ER Projects group in ER Share folder for this baselining effort

Availability -

Assumes 25 borehole completed to 2 ft in depth with samples collected over 6 inch intervals for a total of 4 samples per borehole. 100 samples collected with 20% QA samples equals 120 samples collected.

Analysis # of Samples Cost per Sample Validation Cost Total Cost Volatile Organics 120 \$361.00 \$10,380.00 \$53,700.00 Inorganics - metals 120 \$426.00 \$10,050.00 \$61,170.00 \$671.00 Isotopics (Pu, Am, & U) 120 \$9,360.00 \$89,880.00 \$7,500.00 Sampling - Rad (base cost per day)5 days of sampling %1500.00 \$212,250.00

Analysis costs include analysis with routine turnaround time, DOT screen, sample bottle, shipping costs, and Verification and Validation costs (25% validation)

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resource

ces		Cost Element		Skill		Department	Curve	Quantity	Units
L	A5H	SUBCONTRACTED SRVS	0000	NONE	K267S	Analytical Laboratory Services	Linear	179.301.10	Dollars

212000 Dollars Analytical Work **Factors**

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es	Cost Element	Skill	Department	Curve	Quantity	Units
CC	N CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	5,735.47	Dollars
Fact	ors 5735.47 Dollars					
ES		0000 NONE	ZDEPT No Department	Linear	3,770.30	Dollars

Factors 3770.30 Dollars

Activity ID: 1GEFR11180

Description: IHSS 140 Characterization Report

3 Schedule Risk Cost Risk 3

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Site Labor	2.00 w	vk	EE	40	80	2.365	0	0	2.365	1.128	3.493
20	Subcontractor Costs	1.00 e	each	EE	0	0	0	25.373	0	25.373	0	25.373
SYS	Contingency And Escalation	1.00 e	a	EE	0	0	0	0	1.558	1.558	0	1.558
	Tot	al for Activity	1GEFR11	18∩∙		80	2 365	25 373	1 558	29 295	1 128	30 423

Line Item 10 - Site Labor

BOE

Estimators Experience - Estimator has 6 years experience implementing SAPs Experience Item Desc - Implemented characterization SAP for the 903 Pad

Breakdown of Cost Data: Item - site labor hours Units - hours per week

Unit Cost - 40 hours (2 week activity duration)

Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment -

This BOE provides one environmental engineer full time for one week to assist and review report. Assumes a subcontractor will prepare report

Resources

s	Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours

40 **Environmental Engineer** Hours Factors

Line Item 20 - Subcontractor Costs

BOE

Estimators Experience - Estimator has 6 years experience preparing reports Experience Item Desc - Characterization Report for the 903 Pad

Breakdown of Cost Data:

WBS No: 1GAB0401 Activity ID: 1GEFR11180

Rocky Flats Closure Project Baseline Cost and Basis of Estimate Proiect WBS Filter Activity Filter Baseline Devl

1GAB

Starts In FY

Item - subcontract dollars Units - lot Unit Cost - \$30,000 dollars Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -

This BOE provides two FTEs (Engineers) full-time @\$73 per hour for one month to prepare report. \$5,000 for ODCs, copying, binders etc.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	25.372.80	Dollars

2 FTEs and \$5K of ODCs (graphics) Factors 30000 Dollars

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	950.86	Dollars
	Factors	950.858 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	606.98	Dollars

Labor

Hours/Unit

260

0

Labor Hours

Total

260

260

0

5.571

Factors 606.979 Dollars

Activity ID: 1GGE161140

Line Item

Description:	Analvsis of	Remedial	Alternatives
--------------	-------------	----------	--------------

Cost Risk	2	Schedule Risk	
COST KISK		Scneaute Risk	

21.567

	Cost Risk	Z Beneume N	isk Z		
Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
Total	Cost	& Escalation	Cost		
5.571	21.567	0	27.138	1.967	29.105
0	0	4.395	4.395	0	4.395

31.533

1.967

33.500

4.395

Line Item 10 - Analysis of Remedial Alternatives

BOE

10

SYS

Estimator's Experience - Estimator has 6 years experience preparing similar documents Experience Item Desc - Operable Unit No.4 IM/IRA Breakdown of Cost Data: Item - Labor hours, subcontractor costs

Units - Lot

Unit Cost - 260 labor hours, \$25,500 subcontract dollars

Description

Unit Cost Adjustment factor -

Analysis of Remedial Alternatives

Contingency And Escalation

Revised Unit Cost -

Basis for adjustment -

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Quantity

1.00 each

Total for Activity 1GGE161140:

1.00 ea

Units

BOE

Type

EE

FF

Resources

es	Cost Element		Skill		Department	Curve	Quantity	Units
75	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	180.00	Hours
Facto	rs 180 hours		_		T			
75	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	80.00	Hours
Facto	rs 80 Hours							
A5	H SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	21.566.88	Dollars

25500 Dollars Factors

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation BOE

Reso

sources		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3.034.82	Dollars
	Factors	3034.82 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.360.12	Dollars
		LOOKEKITOR	0000	INOINE		10 Dobartinont	Eliloui	1.000.12	Donard

Factors 1360.12 Dollars

WBS No: 1GAB0401 Activity ID: 1GGE161170

Rocky Flats Closure Project **Baseline Cost and Basis of Estimate**

Baseline Devl Proiect 1GAB WBS Filter

Activity Filter

Starts In FY

Activity ID: 1G0	Description: Prepare Closeout Report - II	HSS Group	900-11					Cost Risk	3 Schedule R	Pisk 3		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	develop report	1.00	each	EE	320	320	9.045	0	0	9.045	3.148	12.192
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	6.657	6.657	0	6.657
	Tot	al for Activit	v 1GGE161	170:		320	9.045	0	6.657	15.702	3.148	18.849

Line Item 0100 - develop report

BOE

Estimator's Experience on similar projects

Perform Data Analysis including GIS representation of data, Closeout Report, and associated project management.

Breakdown of Cost Data:

Item: Develop Documentation

Units: hours

Unit Cost: 320

Unit Cost Adjustment Factor: none

Revised Unit Hours: 320

Required level of effort:

Environmental Engineer - 80 hours

Environmental Scientist - 20 hours

Computer Specialist - 160 hours (GIS, SWD)

Manger - 20 hours

Administrative - 20 hours Cost Estimators - 20 hours

Resources

Cost Element	Skill	Department	Curve	Quantity Units
750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	80.00 Hours
Factors 80 hrs				
750 STRAIGHT TIME BASE	G010 ADMINISTRATIVE ASSISTANTS	R100S RMRS Salaried	Linear	20.00 Hours
Factors 20 hrs				
750 STRAIGHT TIME BASE	M020 MANAGERS (GRADE 69 - 72)	R100S RMRS Salaried	Linear	20.00 Hours
Factors 20 hrs				
750 STRAIGHT TIME BASE	P060 COMPUTER SYSTEMS ANALYSTS	R100S RMRS Salaried	Linear	160.00 Hours
Factors 160 hrs				
750 STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNERS A	N K265S ER Programs	Linear	20.00 Hours
Factors 20 Hours				
750 STRAIGHT TIME BASE	S020 ENVIRONMENTAL SCIENTISTS	R100S RMRS Salaried	Linear	20.00 Hours
Factors 20 hrs				

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
L	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	4.767.97	Dollars
1	Factors	4767.97 Dollars							
L	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.888.79	Dollars

Factors 1888.79 Dollars

Activity ID: 1GGE161200 Description: Comparative Analysis of Alternative & Remedy Sel Cost Risk 2 Schedule Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Comparative Analysis of Alternative & Remedy Selec	1.00	each	EE	306	306	7.142	14.378	0	21.520	2.521	24.041
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3.630	3.630	0	3.630
	To	tal for Activi	ty 1GGE161	200:		306	7,142	14,378	3,630	25,150	2,521	27,672

Line Item 10 - Comparative Analysis of Alternative & Remedy Selec

Estimator's Experience - Estimator has 6 years experience preparing similar documents BOE

WBS No: 1GAB0401 Rockv Flats Closure Project
Activity ID: 1GGE161200 Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

0.84576 [SYS 061400] .84576000 - System

Experience Item Desc - Operable Unit No.4 IM/IRA

Breakdown of Cost Data:

Item - Labor hours, subcontractor costs

Units - Lot

Unit Cost - 306 labor hours, \$17,000 subcontract dollars

Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment -

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	135.00	Hours
	Factors	135 hours							
	750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	90.00	Hours
	Factors	90 hours							
	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	81.00	Hours
	Factors	81 hours							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	14.377.92	Dollars

Factors 17000 Dollars

Line Item SYS - Contingency And Escalation

BOE

Resources

es	Cost Element	Skill	Department	Curve	Quantity Units
CC	N CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	2.506.83 Dollars
Faci	ors 2506.83 Dollars				
ES	C ESCALATION	0000 NONE	ZDEPT No Department	Linear	1.123.49 Dollars

Factors 1123.49 Dollars

Cost Risk 2 Schedule Risk 2

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	RMRS Review & Comment Incorporation	1.00 each		EE	350	350	9.114	7.189	0	16.303	3.217	19.521
SYS	Contingency And Escalation	1.00	1.00 ea		0	0	0	0	2,948	2,948	0	2,948
	Tot	al for Activi	ity 1GGE161	1235:		350	9,114	7,189	2,948	19,251	3,217	22,468

Line Item 10 - RMRS Review & Comment Incorporation

BOE

Estimator's Experience - Estimator has 6 years experience preparing similar documents

Experience Item Desc - Operable Unit No.4 IM/IRA

Breakdown of Cost Data:

Item - Labor hours, subcontractor costs

Units - Lot

Unit Cost - 350 labor hours, \$8,500 subcontract dollars

Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment -

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element		Skill		Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	80.00 Hours
Factors	80 Hours						
750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	135.00 Hours
Factors	135 hours						
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	135.00 Hours
Factors	135 Hours						
A5H	SUBCONTRACTED SRVS	S020	ENVIRONMENTAL SCIENTISTS	K265S	ER Programs	Linear	7.188.96 Dollars
Factors	8500 Dollars						

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WBS No: 1GAB0401 Rocky Flats Closure Project
Activity ID: 1GGE161235 Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources	Cost Element	Skill	Department	Curve	Ouantity Units
	CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	2.035.44 Dollars
	Factors 2035.44 Dollars				
	ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	912.22 Dollars

Factors 912.223 Dollars

ACTIVITY ID: TGG	Description: DOE Review & Comment inc	corporation						Cost Risk 2 Schedule Risk 2				
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	DOE / KH Review & Comment Incorporation	1.00	each	EE	295	295	7.339	3.594	0	10.934	2.591	13.525
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.042	2.042	0	2.042
	Tot	al for Activi	ty 1GGE161	1250:		295	7.339	3.594	2.042	12.976	2.591	15.567

Line Item 10 - DOE / KH Review & Comment Incorporation

BOE

Estimator's Experience - Estimator has 6 years experience preparing similar documents

Experience Item Desc - Operable Unit No.4 IM/IRA

Breakdown of Cost Data:

Item - Labor hours, subcontractor costs

Units - Lot

Unit Cost - 295 labor hours, \$4,250 subcontract dollars

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element		Skill		Department	Curve	Quantity Units
L	750 STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	80.00 Hours
ا.	Factors 80 hours						
	750 STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	135.00 Hours
4	Factors 135 hours						
	750 STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	80.00 Hours
اد.	Factors 80 hours						
L	A5H SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	3.594.48 Dollars

Factors 4250 Dollars

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element	Skill			Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.410.24	Dollars
	Factors	1410.24 Dollars							
ĺ	FSC	ESCALATION	0000	NONE	7DFPT	No Department	Linear	632.03	Dollars

Factors 632.028 Dollars

Activity ib. 160L101273 Description: Adency Review & Comment incorporation	Activity ID: 1GGE161275 Description: Agency Review & Comment Incorporation Cost Risk 4 Schedule
--	---

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Agency Review & Comment Incorporation	1.00	each	EE	313	313	7.920	7.189	0	15.109	2.796	17.905
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.762	2.762	0	2.762
	То	tal for Activit	v 1GGE161	275:		313	7.920	7.189	2.762	17.872	2.796	20.667

Line Item 10 - Agency Review & Comment Incorporation

BOE

Estimator's Experience - Estimator has 6 years experience preparing similar documents

Experience Item Desc - Operable Unit No.4 IM/IRA

Breakdown of Cost Data:

Item - Labor hours, subcontractor costs

Proiect **Rocky Flats Closure Project** WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter

1GGE161275 Units - Lot

1GAB0401

Unit Cost - 313 labor hours, \$8,500 subcontract dollars

Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment -

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

WBS No:

Activity ID:

es	Cost Element		Skill		Department	Curve	Ouantity	Units
	750 STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	80.00	Hours
F	actors 80 hours				T			
	750 STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	135.00	Hours
F	Cactors 135 hours				T			
L	750 STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	18.00	Hours
F	actors 18 Hours				T			
L	750 STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	80.00	Hours
F	actors 80 hours				T			
	A5H SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	7.188.96	Dollars

Factors 8500 Dollars

0.84576 [SYS 061400] .84576000 - System

Starts In FY

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.925.58	Dollars
	Factors	1925.58 Dollars					·		
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	836.73	Dollars

Labor

Hours/Unit

285

0

Labor Hours

Total

285

285

0

7.178

836.73 Dollars Factors

Activity ID: 1GGE161290

Line Item

Description: Public Comment Period

Description

Cost Risk 4 Schedule Risk

29.241

Baseline Devl

1GAB

4 Total Prime Labor Cost Materials/Sub Contingency Burden Cost Total Cost & Escalation **Total** Cost Cost 7.178 29.241 0 36.419 2.534 38.953 6.009 6.009 0 6.009

42.428

2.534

44.962

6.009

Line Item 10 - Public Comment period

BOE

10

Estimator's Experience - Estimator has 6 years experience preparing similar documents

Experience Item Desc - Operable Unit No.4 IM/IRA

Breakdown of Cost Data:

Public Comment period

Contingency And Escalation

Item - Labor hours, subcontractor costs, Other Direct Cost

Units - Lot

Unit Cost - 285 labor hours, \$22,750 subcontract dollars, \$10,000 ODC costs

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Quantity

1.00 each

Total for Activity 1GGE161290:

1.00 ea

Units

BOE

Type

EE

FF

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
L	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00	Hours
	Factors	80 Hours							
	750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	80.00	Hours
-	Factors	80 hours							
L	750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	80.00	Hours
-	Factors	80 hours							
	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	45.00	Hours
	Factors	45 hours							

WBS No: 1GAB0401 Baseline Devl Proiect **Rocky Flats Closure Project** 1GAB Activity ID: 1GGE161290 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter A5C SUPPLIES 0000 NONE K265S ER Programs Linear 10000 Dollars 0000 NONE K265S ER Programs A5H SUBCONTRACTED SRVS Linear

Factors 22750 Dollars

0.84576 [SYS 061400] .84576000 - System

Starts In FY

10.000.00 Dollars

19.241.04 Dollars

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	4.189.10	Dollars
	Factors	4189.1 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.820.31	Dollars

Factors 1820.31 Dollars

Activity ID: 1GGE161295 Description: Responsiveness Summary & Comment Incorporation

Cost Risk 4 Schedule Risk

4

0.84576 [SYS 061400] .84576000 - System

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Responsiveness Summary & Comment Incorporation	1.00	each	EE	320	320	8.307	15.520	0	23.827	2.913	26.740
SYS	Contingency And Escalation						0	0	4.995	4.995	0	4.995
	Tot		320	8.307	15.520	4.995	28.822	2.913	31.735			

Line Item 10 - Responsiveness Summary & Comment Incorporation

BOE

Estimator's Experience - Estimator has 6 years experience preparing similar documents

Experience Item Desc - Operable Unit No.4 IM/IRA

Breakdown of Cost Data:

Item - Labor hours, subcontractor costs

Units - Lot

Unit Cost - 320 labor hours, \$18,350 subcontract dollars

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element		Skill		Department	Curve	Ouantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00	Hours
Factors	80 Hours							
750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	80.00	Hours
Factors	80 hours			,				
750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	80.00	Hours
Factors	80 hours			I			1	
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	80.00	Hours
Factors	80 Hours			I			1	
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	15.519.70	Dollars
Factors	18350 Dollars							

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3.478.92	Dollars
_	Factors	3478.92 Dollars							
L	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.516.20	Dollars

Factors 1516.2 Dollars

Activity ID: 1GGE161360 Description: SAP Scoping Cost Risk 3 Schedule Risk 3

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Remediation SAP Scoping	2.00	wk	EE	80	160	4.946	4.939	0	9.886	1.746	11.632

Rocky Flats Closure Project

Receive Cost and Recip of February

Baseline Devl

WBS Filter

1GAB

Starts In FY

0.84576 [SYS 061400] .84576000 - System

Activity ID: 1GGE161360 Baseline Cost and Basis of Estimate WBS Filter 1GAB
Activity Filter *

SYS	Contingency And Escalation	1.00 ea	EE	0	0	0	0	1.775	1.775	0	1.775
, ,	Tot	al for Activity 1GGE	161360:		160	4.946	4.939	1.775	11.661	1.746	13.407

Line Item 10 - Remediation SAP Scoping

1GAB0401

BOE

WBS No:

Estimator's Experience - Estimator has 6 years experience preparing similar documents
Experience Item Desc - 903 Drum Storage, 903 Lip Area, and Americium Zone Sampling and Analysis Plan
Breakdown of Cost Data:

Item - Labor hours, subcontract dollars

Units - week

Unit Cost - 80 labor hours, \$2,920 Subcontractor Costs

Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment -

This BOE provides a environmental engineer, a environmental scientist at full-time each week for the duration of the activity. The activity is baselined for two weeks.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s		Cost Element		Skill		Department	Curve	Quantity Uni	iits
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00 Hours	S
Ĺ	Factors .	40 Hours							
	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	40.00 Hours	S
į	Factors -	40 Hours							
L	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	2.469.62 Dollar	ırs

Factors 2920 Dollars 1 FTE for a week \$73 * 40 (2 weeks

Line Item SYS - Contingency And Escalation

BOE

Resources

s	Cost Element		Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT No Department	Linear	1.231.89	Dollars
Factors	1231.89 Dollars						
ESC	ESCALATION	0000	NONE	ZDEPT No Department	Linear	543.57	Dollars

Factors 543.567 Dollars

Activity ID: 1GGE161370 Description: Prepare SAP Cost Risk 3 Schedule Risk 3

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Prepare SAP	1.00	each	EE	400	400	11.368	42.288	0	53.656	4.013	57.669
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8.803	8.803	0	8.803
	Tot	400	11.368	42.288	8.803	62.459	4.013	66.472				

Line Item 10 - Prepare SAP

BOE

Estimator's Experience - Estimator has 6 years experience preparing similar documents

Experience Item Desc - 903 Drum Storage, 903 Lip Area, and Americium Zone Sampling and Analysis Plan

Breakdown of Cost Data:

Item - Labor hours, subcontractor costs

Units - Lot

Unit Cost - 400 labor hours, \$50,000 subcontract dollars

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

This BOE provides one computer systems analysts full-time and a chemist and environmental engineer at three-fourths time for activity. The activity is baselined for 60 days.

The BOE also provides for \$50k of subcontract support. This provides for 2 FTE engineers for two months @ \$73 per hour and admin support for 100 hours @ \$32 per hour for a total of \$49.920.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

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WBS No: 1GAB0401 Baseline Devl Proiect **Rocky Flats Closure Project** Activity ID: 1GGE161370 WBS Filter 1GAB **Baseline Cost and Basis of Estimate** Activity Filter Resources

				baseline Cost ar	Starts In FY *			
es		Cost Element		Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	120.00 Hours
	Factors	120 Hours						
	750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	160.00 Hours
	Factors	160 Hours						
	750	STRAIGHT TIME BASE	S010	CHEMISTS	K267S	Analytical Laboratory Services	Linear	120.00 Hours
	Factors	120 Hours						
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	42.288.00 Dollars
	Fastore	50000 Dollars						

Factors 50000 Dollars

Line Item SYS - Contingency And Escalation

BOE

Resources

Line Item

es		Cost Element	Skill			Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	6.107.63	Dollars
	Factors	6107.63 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	2.694.98	Dollars

Labor

Hours/Unit

200

0

Labor Hours

Total

200

200

0

Labor Cost

Total

5.825

5.825

BOE

Type

EE

EE

Units

Factors 2694.98 Dollars

Activity ID: 1GGE161385 **Description:** Internal Review SAP & Incorporate Comments Description

Cost Risk 2 Schedule Risk

Materials/ Sub

Cost

1.903

1.903

1.477

Contingency Total Prime Burden Cost Total Cost & Escalation Cost 7.728 2.056 9.784 1.477 1.477 0 1.477 9.205 2.056 11.262

0.84576 [SYS 061400] .84576000 - System

Line Item 10 - Internal Review SAP & Tncorporate Comments

Contingency And Escalation

BOE

10

SYS

Estimator's Experience - Estimator has 6 years experience preparing similar documents

Experience Item Desc - 903 Drum Storage, 903 Lip Area, and Americium Zone Sampling and Analysis Plan

Quantity

1.00 each

Total for Activity 1GGE161385:

1.00 ea

Breakdown of Cost Data:

Item - Labor hours, subcontractor costs

Internal Review SAP & Tncorporate Comments

Units - Lot

Unit Cost - 200 labor hours, \$2,250 subcontract dollars

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

This BOE provides one environmental engineer 80 hours each for the duration of the activity. It also provides for an environmental scientist and computer systems analyst 60 hours for the activity. It also provides 31 hours for subcontractor support for this activity (one FTE at \$73 hour).

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00	Hours
,	Factors	80 Hours							
Į	750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	60.00	Hours
,	Factors	60 Hours							
Į	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	60.00	Hours
,	Factors	60 Hours							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	1.902.96	Dollars
Į	7.011	SUBCONTRACTED SRVS	0000	INONE	K265S	IER Programs	Linear	1.902.96	

Factors 2250 Dollars

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.020.21	Dollars
	Factors	1020.21 Dollars							

WBS No: 1GAB0401 Rockv Flats Closure Project Project Baseline Devl Activity ID: 1GGE161385 Baseline Cost and Basis of Estimate USB Filter 1GAB

ESC ESCALATION 0000 NONE ZDEPT No Department Linear 457,23 Dollars

Factors 457.229 Dollars

Activity ID: 1GGE161400 Description: DOE Review SAP & Incorporate Comments Cost Risk 2 Schedule Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	DOE Review SAP & Incorporate Comments	1.00	each	EE	180	180	5.234	1.903	0	7.137	1.848	8.984
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.357	1.357	0	1.357
	Total for Activity 1GGE161400:							1.903	1.357	8,493	1.848	10.341

Line Item 10 - DOE Review SAP & Incorporate Comments

BOE

Estimator's Experience - Estimator has 6 years experience preparing similar documents

Experience Item Desc - 903 Drum Storage, 903 Lip Area, and Americium Zone Sampling and Analysis Plan

Breakdown of Cost Data:

Item - Labor hours, subcontractor costs

Units - Lot

Unit Cost - 180 labor hours, \$2,250 subcontract dollars

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

This BOE provides one environmental scientist, computer systems analyst, and an environmental engineer 60 hours each for this activity. This activity has a duration of 19 days.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	60.00	Hours
_	Factors	60 Hours							
	750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	60.00	Hours
_	Factors	60 Hours							
	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	60.00	Hours
_	Factors	60 Hours							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	1,902.96	Dollars
	Factors	2250 Dollars							

U.84576 [SYS 061400] .84576000 - System Line Item SYS - Contingency And Escalation

BOE

Resources

ces				Department	Curve	Ouantity	Units		
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	936.81	Dollars
	Factors	936.807 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	419.85	Dollars

ACTIVITY ID. 100	Description. SAF Adelicy Neview & Appl	Uvai			Cost Risk 3 Schedille Risk 3							
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	SAP Agency Review & Approval	1.00	each	EE	192	192	6.425	3.045	0	9.470	2.268	11.737
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.792	1.792	0	1.792
·	Tot	tal for Activ	ity 1GGF16	1425·		192	6 425	3 045	1 792	11.261	2 268	13 529

Line Item 10 - SAP Agency Review & Approval

BOE

Experience Item Desc - 903 Drum Storage, 903 Lip Area, and Americium Zone Sampling and Analysis Plan

Breakdown of Cost Data:

Item - Labor hours, subcontractor costs

Units -hours per month, subcontractor dollars for activity

Unit Cost - 192 labor hours, \$3,600 subcontract dollars

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

WBS No: 1GAB0401 Activity ID: 1GGE161425

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Starts In FY *

This BOE provides for a environmental engineer full-time for two weeks, an computer systems analyst full-time for one week, and a K-H manger and environmental scientist for 3 days for this activity.

This BOE also provides for approximately 50 hours of subcontract engineering time at \$73 per hour.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

	Cost Element		Skill		Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	D100S	RMRS Salaried	Linear	80.00 Hours
	80 Hours	LU30	ILIVIRONIVILIVIAL LINGINELIKS	KIUUS	INVINO Salaried	Lilleal	00.00II 10u15
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	9.00 Hours
Factors	9 Hours						
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	9.00 Hours
Factors	9 Hours						
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	27.00 Hours
Factors	27 Hours						
750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	40.00 Hours
Factors	40 Hours						
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	27.00 Hours
Factors	27 Hours						
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	3.044.74 Dollars
Factors	3600 Dollars						

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element	Skill			Department	Curve	<i>Ouantity</i>	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.243.09	Dollars
	Factors	1243.09 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	548.51	Dollars

548.509 Dollars Factors

Activity ID: 1GGE161480 Description: 903 Pad Site Documentation

Activity ID: 1GG	E161480 Description: 903 Pad Site Documentation	า						Cost Risk	4 Schedule F	Risk 4		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	903 Pad. Lip. & Am Zone Site Documentation	2.00	each	EE	1.600	3.200	80.506	0	0	80.506	28.220	108.725
20			each	EE	0	0	0	333.399	0	333.399	0	333.399
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	83.553	83.553	0	83.553
	To	al for Activi	ity 1GGE161	1480∙		3 200	80 506	333 300	83 553	107 157	28 220	525 677

Line Item 10 - 903 Pad, Lip, & Am Zone Site Documentation

BOE

Estimator's Experience - Estimator interviewed Trench 1 field supervisor to identify Site resources required to complete documentation requirements Experience Item Desc - T-1 Site Documentation

Breakdown of Cost Data: Item - Site Labor hours

Units - hours per month

Unit Cost - 1,600 Site Labor Hours (2 month activity duration)

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

This BOE provides for a crit engineer, Admin. assist., laborer, Rad Engineer, Env. Scientist, geologist, 2 RCTs and 2 Heavy equipment operators full-time each month for two months.

This work will be conducted primarily by subcontract personnel with site support. This basis of estimate assumes site personnel will be on the project for two months, the initial planning month and one additional month to review and provide input on draft documents.

Resources Cost Element	Skill	Department	Curve	Ouantity	Units
------------------------	-------	------------	-------	----------	-------

WBS No: 1GAB0401 Baseline Devl Proiect Rocky Flats Closure Project 1GAB Activity ID: 1GGE161480 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 750 STRAIGHT TIME BASE E080 NUCLEAR (CRITICALITY) ENGINEER R100S RMRS Salaried 160.00 Hours Linear 160 Hours crit engineer R100S RMRS Salaried 750 STRAIGHT TIME BASE G040 SECRETARIES 160.00 Hours Linear 160 Hours Admin 750 STRAIGHT TIME BASE L090 GENERAL LABORER KG10H Remediation Steelworkers Linear 160.00 Hours Factors 160 Hours laborer HEALTH PHYSICISTS R100S RMRS Salaried 160.00 Hours 750 STRAIGHT TIME BASE Linear 160 Hours Rad Engineer Factors STRAIGHT TIME BASE R100S RMRS Salaried 160.00 Hours S020 ENVIRONMENTAL SCIENTISTS Linear 160 Hours Env. Scientist **Factors** R100S RMRS Salaried 750 STRAIGHT TIME BASE S030 GEOLOGISTS 160.00 Hours Linear 160 Hours aeolotist 750 STRAIGHT TIME BASE T050 RADIATION CONTROL TECHNOLIGI KG10H Remediation Steelworkers Linear 320.00 Hours 160 Hours **RCTs** Factors 750 STRAIGHT TIME BASE T060 D&D HAZ REDUC TECH / RISK RED | KG10H | Remediation Steelworkers 320.00 Hours Linear Factors 160 Hours Heavy equipment operators Line Item 20 - Subcontractor Costs Estimator's Experience - Estimator interviewed Trench 1 field supervisor to identify Subcontractor resources and time requirements to complete documentation BOE Experience Item Desc - T-1 Site Documentation Breakdown of Cost Data: Item -Subcontractor costs Units - Lot Unit Cost - \$394,000 subcontract dollars Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -T-1 cost report reported 5,413.13 Site personnel hours for planning and \$230,000 for subcontractor costs for a total of approximately \$500,000 T-1 was planned by site personnel. This BOE provides subcontractor costs which were estimated by assuming 5 FTEs (engineer level at \$73/hour) would be required for 6 month duration totaling This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions. Units Resources Cost Element Curve **Ouantity** Skill Department A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs Linear 333.398.60 Dollars 73 Dollars **FTEs** Factors hours per day days per month 0.84576 [SYS 061400] .84576000 - System months Line Item SYS - Contingency And Escalation BOE Resources Cost Element Skill Units Department Curve Ouantity CON CONTINGENCY 58.226.85 Dollars 0000 NONE ZDEPT No Department Linear Factors 58226.9 Dollars ZDEPT No Department 25.325.74 Dollars ESC ESCALATION 0000 NONE Linear 25325.7 Dollars Factors Activity ID: 1GGE161490 Description: 903 Pad Procurement (Documentation) Cost Risk 2 Schedule Risk Total Prime Line Item Units BOELabor Labor Hours Labor Cost Materials/ Sub Contingency Burden Cost Total Cost Description Quantity & Escalation TypeHours/Unit Total **Total** Cost Cost EE 10 903 Pad Procurement 320 320 11.395 11.395 4.023 15.418 1.00 each SYS Contingency And Escalation 1.00 ea FF 0 2.328 2.328 0 2.328 Total for Activity 1GGE161490: 320 11.395 2 328 13.723 4.023 17.746 Line Item 10 - 903 Pad Procurement

Estimator's Experience - Estimator has reviewed Acquisition Procedure for requisitioning Commodities and Services and prepare SOWs.

BOE

Experience Item Desc - T-1 Site Procurements

WBS No: 1GAB0401 **Rocky Flats Closure Project** Activity ID: 1GGE161490 **Baseline Cost and Basis of Estimate**

Proiect WBS Filter Activity Filter

1GAB Starts In FY

Baseline Devl

Breakdown of Cost Data: Item -Site labor hours Units - month

Basis for adjustment -

Unit Cost - 320 labor hours Unit Cost Adjustment factor -Revised Unit Cost -

This BOE provides a Environmental Scientist and K-H manager at one-half time and a procurement buyer at full-time for the duration of this activity of one month. The scope of this activity is to prepare a SOW and procure a MTS contractor to prepare the documentation required to perform field work at the 903 Pad, Lip Area and Americium Zone.

Resources

es	Cost Element			Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	RAIGHT TIME BASE M020 MANAGERS (GRADE 69 - 72)		R100S	RMRS Salaried	Linear	80.00 Hours	
	Factors	80 Hours							
	750	STRAIGHT TIME BASE	P030	BUYERS PROCUREMENT AND CON	K216S	Subcontracts Management	Linear	160.00	Hours
	Factors	160 Hours							
	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	80.00	Hours
	P .	00							

Factors Line Item SYS - Contingency And Escalation

BOE

Resources

es	Cost Element		Skill			Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.607.63	Dollars
	Factors	1607.63 Dollars	Dollars						
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	720 49	Dollars

Factors 720.492 Dollars

Activity ID: 1GGE161500 Description: 903 Pad Readiness Review

Schedule Risk	3
	Schedule Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Site Resource	2.00	each	EE	7.640	15.280	488.578	0	0	488.578	137.779	626.358
20	Subcontractor	2.00	each	EE	0	0	0	296.354	0	296.354	0	296.354
30	Leases	2.00	each	EE	0	0	0	247.160	0	247,160	0	247.160
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	175.661	175.661	0	175.661
Total for Activity 1GGE161500:						15.280	488.578	543.514	175.661	1.207.754	137.779	1.345.533

Line Item 10 - Site Resource

BOE

Estimators Experience - Estimator interviewed T-1 Field Supervisor to determine site resource needs Experience Item Desc - T-1 Readiness Assessment Duration of 6 weeks

Breakdown of Cost Data: Item - Site labor

Units - hours per month

Unit Cost - 7,640 hour per month Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment -

Estimate based on labor resources assumed to be the same as those required to perform excavation activity. Readiness assessment will require 6 readiness assessors full-time for the duration of the activity estimated to take two months. Training activities and mock up activities will be conducted during this time period.

Resources

s	Cost	Cost Element				Department	Curve	Quantity	Units
	750 STRAIGHT T	IME BASE E080	NUCLEAR (CRITIC	CALITY) ENGINEER	R100S	RMRS Salaried	Linear	160.00	Hours
	Factors 160 h	ours	1 Crit En	aineer for AB					
	750 STRAIGHT T	IME BASE M02	MANAGERS (GRA	ADE 69 - 72)	K271S	Technical Support. Oversight & Integration	Linear	960.00	Hours
	Factors 160 F	lours	6 Readin	ness Assessors					
	750 STRAIGHT T	IME BASE M04	MANAGERS (GRA	ADE 64 - 68)	K107S	Eng. Envir. Safety & Quality Programs	Linear	160.00	Hours
	Factors 160 H	lours	1 QA						

WBS No: 1GAB0401 Rockv Flats Closure Proiect Proiect Baseline Devl
Activity ID: 1GGE161500 Baseline Cost and Basis of Estimate **

.002.0.000	Baseline Cost a	nd Basis of Estimate Activity Fi	ilter *	Starts In FY *
750 STRAIGHT TIME BASE	M040 MANAGERS (GRADE 64 - 68)	R100S RMRS Salaried	Linear	480.00 Hours
Factors 160 Hours	3 Managers Oversight			<u>, </u>
750 STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear	160.00 Hours
Factors 160 Hours	1 Rad Engineer			
750 STRAIGHT TIME BASE	P090 INDUSTRIAL HYGIENISTS	K107S Eng. Envir. Safety & Quality Programs	Linear	160.00 Hours
Factors 160 Hours	1 Safetv			
750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIGI	KG10H Remediation Steelworkers	Linear	2.080.00 Hours
Factors 160 Hours	13 RCTs			T T
750 STRAIGHT TIME BASE	T060 D&D HAZ REDUC TECH / RISK RED	KG10H Remediation Steelworkers	Linear	480.00 Hours
Factors 40 Hours	12 D&D Worker OT			
751 OVERTIME BASE & PRE.	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	80.00 Hours
Factors 40 hours	2 Forman OT			T
751 OVERTIME BASE & PRE.	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	320.00 Hours
Factors 160 hours	2 Foreman			T
751 OVERTIME BASE & PRE.	M040 MANAGERS (GRADE 64 - 68)	R100S RMRS Salaried	Linear	120.00 Hours
Factors 40 Hours	3 Managers OT			
751 OVERTIME BASE & PRE.	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear	40.00 Hours
Factors 40 hours	1 Rad Eng OT			
751 OVERTIME BASE & PRE.	T050 RADIATION CONTROL TECHNOLIGI	KG10H Remediation Steelworkers	Linear	520.00 Hours
Factors 40 Hours	13 RCT Overtime		1	
751 OVERTIME BASE & PRE.	T060 D&D HAZ REDUC TECH / RISK RED	KG10H Remediation Steelworkers	Linear	1.920.00 Hours
Factors 160 Hours	12 D&D worker			

Line Item 20 - Subcontractor

BOE

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine subcontractor support requirements during remediation Experience Item Desc - T-1 Remediation

Breakdown of Cost Data:

Item - subcontracted services

Units - dollars per month

Unit Cost - \$175,200 (activity duration is 2 months)

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment

This BOE provides the following subcontract personnel 1 Project Manager, 2 Project Supervisors, 2 HSS Specialist, 3 Waste Generators, 1 Field Supervisor, 1 Technician/Runner

2 Geologists to implement SAP. These 12 personnel are required full-time with 40 hours of overtime for the duration of the activity estimated at two months.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es			Cost Element			Skill			Department	Curve	Ouantity	Units
	A5H	SUBCON	TRACTED SRVS	0000	NONE		K265S	ER Prod	arams	Linear	118.541.70	Dollars
	Factors	73	Dollars		12	subcontract personnel		160	hours per month			
										0.84576 [SYS 06140	01 .84576000 - S	System
	A5H	SUBCON	TRACTED SRVS	0000	NONE		K265S	ER Prod	arams	Linear	29.635.43	Dollars
	Factors	73	Hours		12	subcontract personnel		40	hours overtime per month			

Line Item 30 - Leases

0.84576 [SYS 061400] .84576000 - System

BOE

Estimators Experience - Estimator interviewed Trench 1 field supervisor and project controls support to obtain rental equipment estimates Experience Item Desc - Trench 1 rental equipment

Breakdown of Cost Data:

Item - Equipment rental

Units - dollars per month Unit Cost - \$123,580 per month

Unit Cost - \$123,580 per month Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

This BOE provides for monthly rentals of heavy equipment, HSS supplies, portoliets, support trailers, fuel, breathing air compressors, purchases of PPE and

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Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Project
WBS Filter
Activity Filter
*

Baseline Devl
1GAB
*

**

provides lunches to workers. The readiness review is estimated to take 2 months.

Resources

1GAB0401

1GGE161500

WBS No:

Activity ID:

s	Cost Element		Skill		Department	Curve	Ouantity Units
A5C	SUPPLIES	0000 NONE		K265S	ER Programs	Linear	20.400.00 Dollars
Factors	17 Dollars	30	Men PPE	,	2 Suits per Dav	20 Davs per mo	nth
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	80.00 Dollars
Factors	20 Dollars	4	Portoliets				
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	2.500.00 Dollars
Factors		1	Fork Lift		1		
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	1.000.00 Dollars
Factors		1	Fence		T		
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	9.000.00 Dollars
Factors		1	Loader		I		
A5L_	RENTALS	1 0000 INONE		K265S	ER Programs	Linear	40.000.00 Dollars
Factors		1	H&S Support Equipment	KOCEO	ED D	I in a ne	2.000.00 Dollars
A5L	RENTALS 500 Dollars	0000 INONE	trailers	K265S	ER Programs	Linear	2.000.00IDollars
Factors A5I	RENTALS	0000 NONE	trailers	Vaces	ER Programs	Linear	22.000.00 Dollars
Factors		2	Breathing Air Compressors	NZUJJ	ILIX FIOGRAMS	Lilleal	22.000.00ID0IIaIS
A5L	RENTALS	0000 NONE	Breathing Air Combressors	K265S	ER Programs	Linear	14.000.00 Dollars
Factors		1	Excavator	NZOOO	ILIX I TOURANTS	Linear	14.000.0010011013
A5L	RENTALS	0000 NONE	EAGGRAGI	K265S	ER Programs	Linear	5.000.00 Dollars
Factors	5000 Dollars	1	Water Truck			• • •	
A5N	FUEL & UTILITIES	0000 NONE	·	K265S	ER Programs	Linear	2.000.00 Dollars
Factors	2000 Dollars	1	Fuel				
A5R	MISC EXPENSES	0000 NONE		K265S	ER Programs	Linear	5.600.00 Dollars
Factors	8 Dollars	35	Men Lunches		20 days per month		

Line Item SYS - Contingency And Escalation

BOE

Resources

ces		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000 N	NONE	ZDEPT	No Department	Linear	63.334.67	Dollars
	Factors	63334.7 Dollars							
	ESC	ESCALATION	0000 N	NONE	ZDEPT	No Department	Linear	112.326.70	Dollars

Factors 112327 Dollars

Activity ID: 1GGE161530 Description: 903 Pad Mobilization & Site Preparation

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Site Resources	2.00	each	EE	6.680	13.360	385.954	0	0	385.954	128.106	514.060
20	Subs & Supplies	1.00	each	EE	0	0	0	3.229.807	0	3.229.807	0	3.229.807
30	Leases	2.00	each	EE	0	0	0	247.160	0	247,160	0	247,160
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	998.221	998.221	0	998.221
	Tot	al for Activit	y 1GGE161	530:		13.360	385.954	3.476.967	998.221	4.861.143	128.106	4.989.249

Line Item 10 - Site Resources

BOE

Estimators Experience - Estimator interviewed T-1 Field Supervisor to determine site resource needs Experience Item Desc - T-1 Readiness Assessment Duration of 6 weeks Breakdown of Cost Data:

Item - Site labor hours

Units - hour per month

Unit Cost - 6,680 hour per month Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment -

Estimate based on labor resources assumed to be the same as those required to perform excavation activity. Activity estimated to take two months. Additional training activities will also be conducted during this time period.

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Cost Risk

5 Schedule Risk

Starts In FY

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

1GAB

Baseline Devl

R	es	OI	Jr	c	e	s
ĸ	es	OI	ıι	C	е	3

_	.002			Baseline Cost an	d Basis	of Estimate Activi	ty Filter *	Starts In FY	*
es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	R100S	RMRS Salaried	Linear	160.00	Hours
	Factors	160 hours		1 Crit Engineer for AB					
	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K107S	Eng. Envir. Safety & Quality Progra	ms Linear	160.00	Hours
r	Factors	160 Hours		1 QA					
L	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	480.00	Hours
r	Factors	160 Hours		3 Managers Oversight					
Ĺ	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	160.00	Hours
	Factors	160 Hours		1 Rad Engineer					
L	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K107S	Eng. Envir. Safety & Quality Progra	ms Linear	160.00	Hours
r	Factors	160 Hours		1 Safetv					
L	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	2.080.00	Hours
г	Factors	160 Hours		13 RCTs					
L	750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KG10H	Remediation Steelworkers	Linear	480.00	Hours
г	Factors	40 Hours		12 D&D Worker OT					
Ĺ	751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	320.00	Hours
г	Factors	160 hours	1	2 Foreman					
L	751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	80.00	Hours
г	Factors	40 hours	1	2 Forman OT					
L	751	OVERTIME BASE & PRE.	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	120.00	Hours
Г	Factors	40 Hours	1	3 Managers OT					
Ļ	751	OVERTIME BASE & PRE.	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	40.00	Hours
Г	Factors	40 hours	1	1 Rad Eng OT					
Ļ	751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	520.00	Hours
Г	Factors	40 Hours	1	13 RCT Overtime					
Ļ	751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KG10H	Remediation Steelworkers	Linear	1.920.00	Hours
	Factors	160 Hours		12 D&D worker					

Line Item 20 - Subs & Supplies

BOE

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine subcontractor support requirements during remediation Experience Item Desc - T-1 Remediation

Breakdown of Cost Data:

Item - subcontracted services

Units - dollars

Unit Cost - \$3,664,210

Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment

This BOE provides the following subcontract personnel 1 Project Manager, 2 Project Supervisors, 2 HSS Specialist, 3 Waste Generators, 1 Field Supervisor, 1 Technician/Runner

2 Geologists to implement SAP. These 12 personnel are required full-time with 40 hours of overtime for the duration of the activity estimated at two months.

The BOE also provides for subcontract dollars to perform construction of the weather structure, environmental media sampling to include air, groundwater and surface waters during remediation.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

_									
es		Cost Element			Skill		Department	Curve	Ouantity Units
	A5C	SUPPLIES	0000	NONE		K265S	ER Programs	Linear	64.240.00 Dollars
1	actors	146 Dollars		440	55-Gallon Drums for Tru Wa	aste			
	A5C	SUPPLIES	0000	NONE		K265S	ER Programs	Linear	200.000.00 Dollars
1	actors	200000 Dollars		1	Supplies				
	A5C	SUPPLIES	0000	NONE		K265S	ER Programs	Linear	555.560.00 Dollars
1	actors	380 Dollars		1462	Soft Side Waste Packages				
	A5C	SUPPLIES	0000	NONE		K265S	ER Programs	Linear	28.000.00 Dollars
1	actors	7000 Dollars		4	Soft Side Waste Pack Lifting	g Frame			

WBS No: 1GAB0401 Proiect Baseline Devl Rocky Flats Closure Project Activity ID: 1GGE161530 WBS Filter 1GAB **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs 761.184.00 Dollars Linear Factors 900000 Dollars 1 HEPA Upgrade 0.84576 [SYS 061400] .84576000 - System 0000 NONE K265S ER Programs 71.889.60 Dollars A5H SUBCONTRACTED SRVS Linear 85000 Dollars Wetland Mitigation Factors 0.84576 [SYS 061400] .84576000 - System 0000 NONE K265S ER Programs 59.270.86 Dollars A5H SUBCONTRACTED SRVS Linear 73 **Dollars** 12 subcontract personnel Over Time 40 2 Factors hour per months months 0.84576 [SYS 061400] .84576000 - System SUBCONTRACTED SRVS 0000 NONE K265S ER Programs Linear 361.139.50 Dollars 427000 Dollars **Factors** 1 Air sampling 0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs 253.728.00 Dollars Linear Factors 150000 Dollars Weather Structure Constructions 0.84576 [SYS 061400] .84576000 - System K265S ER Programs 592.032.00 Dollars A5H SUBCONTRACTED SRVS 0000 NONE Linear Factors 350000 Dollars 2 Weather Structure Purchases 0.84576 [SYS 061400] .84576000 - System K265S ER Programs 59.270.86 Dollars A5H SUBCONTRACTED SRVS 0000 NONE Linear Factors 73 Dollars 40 2 12 subcontract personnel hour per month months 0.84576 [SYS 061400] .84576000 - System SUBCONTRACTED SRVS 0000 NONE K265S ER Programs Linear 160.060.10 Dollars 189250 Dollars Groundwater Monitoring Program Factors 1 0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs Linear 63 432 00 Dollars 75000 Dollars Factors 1 Surface Water Monitoring Progam 0.84576 [SYS 061400] .84576000 - System Line Item 30 - Leases Estimators Experience - Estimator interviewed Trench 1 field supervisor and project controls support to obtain rental equipment estimates BOE Experience Item Desc - Trench 1 rental equipment Breakdown of Cost Data: Item - Rentals Units - dollars per month Unit Cost - \$123,560 Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment -This BOE provides for monthly rentals of heavy equipment, HSS supplies, portoliets, support trailers, fuel, breathing air compressors, purchases of PPE and provides lunches to workers. The readiness review is estimated to take 2 months. Units Resources Cost Element Department A5C SUPPLIES 0000 NONE K265S ER Programs Linear 20,400,00 Dollars Factors 17 Dollars 30 Men PPE Suits per Day 20 Davs per month A5L RENTALS K265S ER Programs 2.000.00 Dollars 0000 NONE Linear 500 Dollars trailers Factors A5L RENTALS 0000 NONE K265S ER Programs 2.500.00 Dollars Linear 2500 Dollars Fork Lift 22.000.00 Dollars A5L RENTALS 0000 NONE K265S ER Programs Linear 11000 Dollars Breathing Air Compressors Factors 1.000.00 Dollars A5L RENTALS 0000 NONE K265S ER Programs Linear

K265S ER Programs

K265S ER Programs

Fence

Excavator

Loader

0000 NONE

0000 NONE

Factors 1000

A5L RENTALS

A5L RENTALS

Factors

Factors 14000 Dollars

9000

Dollars

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Linear

Linear

14.000.00 Dollars

9.000.00 Dollars

WBS No: Activity ID:	1GAB0401 1GGE161530					Closure P			oiect SS Filter	Baseline Devl 1GAB			
				baseline Co	ost an			Act	ivitv Filter	*		Starts In FY	*
	A5L RENTALS	0000 NONE				K265S ER	Programs			Linear		5.000.00 Dol	lars
	Factors 5000 Dollars	1 0000 NONE	Water T	ruck		K265S ER	D			1:		80.00 Dol	I
	A5L RENTALS Factors 20 Dollars	1 0000 INONE 4	Portoliet	te		K2055 ER	Programs			Linear		80.001001	lars
	A5L RENTALS	0000 NONE	i ontollet			K265S ER	Programs			Linear		40.000.00 Dol	lars
	Factors 40000 Dollars	. 1	H&S Su	pport Equipme	ent								
	A5N FUEL & UTILITIES	0000 NONE				K265S ER	Programs			Linear		2.000.00 Dol	lars
	Factors 2000 Dollars	1	Fuel							I			
	A5R MISC EXPENSES	0000 NONE				K265S ER				Linear		5.600.00 Dol	lars
	Factors 8 Dollars	35	Men Lur	nches		20	days per	r month					
	- Contingency And Escalation												
BOE		I				ı				I			
Resources	Cost Element		Skill				Departs	ment		Curve			Inits
	CON CONTINGENCY	0000 NONE				ZDEPT No	Department			Linear	(375.277.30 Dol	ars
	Factors 675277 Dollars ESC ESCALATION	0000 NONE				ZDEPT No	Donartmont			Linear		322.944.20 Dol	lore
	Factors 322944 Dollars	I 0000 INCINE				ZDEPT INO	Department			Lilleai		522.944.20ID0I	iais .
Activity ID: 1		Remediation	Т			ſ	T	1	Cost Risk	5 Schedule	1		
Line Item	Description		Quantity		BOE	Labor	Labor Hours	Labor Cost	Materials/ S	0 2	Total Prime	Burden Cost	Total Cost
10	011 D		40.00		Type EE	Hours/Unit	Total	Total	Cost	& Escalation	Cost	740.00	0.000.005
10 20	Site Resource Hours Subs & Supplies		12.00	each	EE	6.680	80.160 0	2.315.726		0 0			3.029.035
30	Leases		12.00		EE	0	0	0					1.482.960
SYS	Contingency And Escalation		1.00		EE	0	0	0		0 2.684.360			2.684.360
·	·	Tot	al for Activi	ity 1GGE1615	40:		80.160	2.315.726	5.471.0	2.684.360	10.471.114	713.309	11.184.423
	Site Resource Hours												
DOL	Estimators Experience - Estimator in Experience Item Desc - T-1 Excavation Breakdown of Cost Data: Item - site labor hours Units - hours per month Unit Cost - 6,680 hours (12 month a Unit Cost Adjustment factor - Revised Unit Cost - Basis for adjustment -	on		upervisor t	to de	etermine re	source need	s for a exc	cavation a	activity using	g site reso	ources	
	Estimate based on number of personne	el required to	perform	T-lexcavat	ion	activity.	Activity e	stimated to	take twe	elve months.			
Resources	Cost Element		Skill				Depart	ment		Curve		Quantity U	Inits
resources	750 STRAIGHT TIME BASE	E080 NUCLEA		ALITY) ENGIN	NEER	R100S RM		тет		Linear	,	160.00 Hou	
	Factors 160 hours	1		ineer for AB									
	750 STRAIGHT TIME BASE	M040 MANAGI	RS (GRAI	DE 64 - 68)		K107S End	. Envir. Safetv	& Quality Proc	ırams	Linear		160.00 Hou	ırs
	Factors 160 Hours	1	QA			ı							
	750 STRAIGHT TIME BASE	M040 MANAGI		DE 64 - 68)		R100S RM	RS Salaried			Linear		480.00 Hou	ırs
	Factors 160 Hours	3		rs Oversiaht		D4000 D14	DO 0 1 : 1					400.00	
	750 STRAIGHT TIME BASE Factors 160 Hours	l P080 IHEALTH	PHYSICIS Rad End			R100S RM	RS Salaried			Linear		160.00 Hou	ırs
	Factors 160 Hours 750 STRAIGHT TIME BASE		RIAL HYGI			K1079 Eng	. Envir. Safetv	& Quality Proc	ırame	Linear		160.00 Hou	ıre
	Factors 160 Hours	1	Safety	LINIOTO		I KIO/O ILIIO	. LIIVII. Saletv	& Quality 1 100	II all II s	Lilicai		100.0011100	113
	750 STRAIGHT TIME BASE	T050 RADIATI		ROL TECHNO	LIGI	KG10H Ren	nediation Steel	workers		Linear		2.080.00 Hou	ırs
	Factors 160 Hours	13	RCTs										
	750 STRAIGHT TIME BASE	T060 D&D HA			RED	KG10H Ren	nediation Steel	workers		Linear		480.00 Hou	ırs
	Factors 40 Hours	12		orker OT						I			
	751 OVERTIME BASE & PRE.	M010 FOREME			DUP	R100S RM	RS Salaried			Linear		320.00 Hou	ırs
	Factors 160 hours	2	Forema		_					0/00/			
					Page	e 77 of 182				6/23/00 9:02	:39 AM	OFFICL	AL USE ONLY

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WBS No: 1GAB0401 Rockv Flats Closure Project Project Baseline Devl
Activity ID: 1GGE161540 Baseline Cost and Basis of Estimate

			Daseille Cost all	u Dasis	Activity Filter	*	Starts In FY *
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	80.00 Hours
Factors	40 hours		2 Forman OT				
751	OVERTIME BASE & PRE.	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	120.00 Hours
Factors	40 Hours		3 Managers OT				
751	OVERTIME BASE & PRE.	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	40.00 Hours
Factors	40 hours		1 Rad Eng OT				
751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	520.00 Hours
Factors	40 Hours		13 RCT Overtime				
751	OVERTIME BASE & PRE.	T060	D&D HAZ REDUC TECH / RISK RED	KG10H	Remediation Steelworkers	Linear	1.920.00 Hours
Factors	160 Hours		12 D&D worker				

Line Item 20 - Subs & Supplies

BOE

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine subcontractor support requirements during remediation Experience Item Desc - T-1 Remediation

Breakdown of Cost Data:

Item - Subcontracted Services

Units - dollars

Unit Cost - \$4,642,140

Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment

This BOE provides the following subcontract personnel 1 Project Manager, 2 Project Supervisors, 2 HSS Specialists, 3 Waste Generators, 1 Field Supervisor, 1 Technician/Runner

2 Geologists to implement SAP. These 12 personnel are required full-time with 40 hours of overtime for the duration of the activity estimated at twelve months.

This activity also provides costs for analytical services required to perform confirmation/verification sampling and waste acceptance. Sample number estimates are provided in the activity scope. Analytical costs are estimated at \$1,320,215

Topsoil estimate of \$21k per acre provided by Tracey Spence, T-1 Project Supervisor.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

	Cost Element		Skill		Department	Curve	Ouantity Units
A5C	SUPPLIES	0000 NONE		K265S	ER Programs	Linear	130.125.00 Dollars
Factors	15 Dollars	8675	Backfill vd3	,			
A5C	SUPPLIES	0000 NONE		K265S	ER Programs	Linear	71.400.00 Dollars
Factors	21000 Dollars	3.4	Topsoil + labor per acre	,			
A5C	SUPPLIES	0000 NONE		K265S	ER Programs	Linear	200.000.00 Dollars
Factors	200000 Dollars	1	Supplies	,			
A5H	SUBCONTRACTED SRVS	0000 NONE		K265S	ER Programs	Linear	1.422.501.00 Dollars
Factors	73 Dollars per hour	12	subcontract personnel		12 months	160 hours per	month
				,		0.84576 [SYS 06 ⁻	14001 .84576000 - Svstem
A5H	SUBCONTRACTED SRVS	0000 NONE		K265S	ER Programs	Linear	355.625.20 Dollars
Factors	73 Dollars per hour	12	subcontract personnel over	time	12 months	40 hours per	month
,	_					0.84576 [SYS 06 ⁻	14001 .84576000 - Svstem
A5H	SUBCONTRACTED SRVS	0000 NONE		K265S	ER Programs	Linear	353.527.70 Dollars
Factors	38000 Dollars	11	Tent Moves				
						0.84576 [SYS 06	14001 .84576000 - System
A5H	SUBCONTRACTED SRVS	0000 NONE		K265S	ER Programs	Linear	253.728.00 Dollars
Factors	150000 Dollars	2	Tent tear down				
						0.84576 [SYS 06	14001 .84576000 - Svstem
A5H	SUBCONTRACTED SRVS	0000 NONE		K267S	Analytical Laboratory Services	Linear	84.576.00 Dollars
Factors	100000 Dollars	1	SID Upgrades				
						0.84576 [SYS 06 ⁻	1400] .84576000 - System

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WBS No: 1GAB0401 Rockv Flats Closure Project Activity ID: 1GGE161540 Rockv Flats Closure Project Baseline Cost and Basis of Estimate Activity Filter *

Activity Filter * Starts In FY *

A5H SUBCONTRACTED SRVS 0000 NONE K267S Analytical Laboratory Services Linear 1.116.585.00 Dollars

Factors 1320215 Dollars 1 Laboratoy Confirmation/WAC/gw/sw

Line Item 30 - Leases

BOE

Estimators Experience - Estimator interviewed Trench 1 field supervisor and project controls support to obtain rental equipment estimates for work in weather

structure

Experience Item Desc - Trench 1 rental equipment

Breakdown of Cost Data:

Item - Rental Equipment
Units - dollars per month

Unit Cost - \$123,580 per month (12 month activity duration)

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

This BOE provides for monthly rentals of heavy equipment, HSS supplies, portoliets, support trailers, fuel, breathing air compressors, purchases of PPE and provides lunches to workers. The remediation and reclamation of the 903 Pad is estimated to take 12 months.

Resources

s	Cost Element		Skill		Department	Curve	Ouantity	Units
A5C	SUPPLIES	0000 NONE		K265S	ER Programs	Linear	20.400.00	Dollars
Factors	17 Dollars	30	Men PPE		2 Suits per Dav	20 Davs per month	າ	
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	22.000.00	Dollars
Factors	11000 Dollars	2	Breathing Air Compressors					ı
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	1.000.00	Dollars
Factors	1000 Dollars		Fence		T			
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	14.000.00	Dollars
Factors	14000 Dollars	1	Excavator		Т			
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	9.000.00	Dollars
Factors		1	Loader		T			1
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	2.500.00	Dollars
Factors		1	Fork Lift		1			
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	5.000.00	Dollars
Factors		1	Water Truck		T			L
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	80.00	Dollars
Factors		4	Portoliets		T			L
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	2.000.00	Dollars
Factors		4	trailers		ED D			L
A5L	RENTALS	0000 NONE		K265S	ER Programs	Linear	40.000.00	Dollars
Factors		1	H&S Support Equipment	1/0050	ED D			D "
	FUEL & UTILITIES	0000 NONE	•	K265S	ER Programs	Linear	2.000.00	iDollars
Factors		1	Fuel	1/0050	ED D			D "
		0000 NONE	•	K265S	ER Programs	Linear	5.600.00	IDOIIars
Factors	8 Dollars	35	Men Lunches		20 days per month			

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element	Skill			Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1,668,627.00 Dollars	
	Factors	1668627 Dollars							
		ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,015,733.00	Dollars

Factors 1015733 Dollars

Activity ID: 1GGE161575	Description:	Prepare 903 Pad Remediation	RFP
-------------------------	--------------	-----------------------------	-----

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	10 RFP Review and Site Procurement			EE	520	520	15.984	0	0	15.984	5.559	21.543
20	20 RFP Preperation		1.00 each 1.00 each		0	0	0	43.134	0	43.134	0	43.134

1 Schedule Risk

Cost Risk

0.84576 [SYS 061400] .84576000 - System

Rocky Flats Closure Project Project Baseline Devl Baseline Cost and Basis of Estimate WBS Filter 1GAB

	Activity Filter *									Starts In FY *				
SYS	Contingency And Escalation	1.0	00 ea	EE	0	0	0	0	14.558	14.558	0			
•	Total for Activity 1GGE161575: 520				15.984	43.134	14.558	73.676	5.559	ı				

Line Item 10 - RFP Review and Site Procurement

1GAB0401

1GGE161575

BOE

WBS No:

Activity ID:

Estimators Experience - Estimator has 6 years experience preparing and bidding on RFPs Experience Item Desc - 903 Pad HPGe Characterization SOW

Breakdown of Cost Data:

Item - Site resources for review and support preparation of SOW

Units - hours

Unit Cost - 520 Hours

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -

Comprehensive SOW/RFP for remediation of radiological facility, 903 Pad, 903 Lip Area and Americium Zone, and East Firing Range and Target Area.

The BOE provides for a civil eng, mech. eng, nuc eng, QC eng, safety eng at one-quarter time for one month. It also provides for a procurements buyer fulltime for two months.

Resources

s	Cost Element		Skill		Department	Curve	Quantity Units
750	STRAIGHT TIME BASE	E020	E020 CIVIL ENGINEERS K		Eng. Envir. Safety & Quality Programs	Linear	40.00 Hours
Factor	s 40 Hours		1 civil ena				
750	STRAIGHT TIME BASE	E070	MECHANICAL ENGINEERS	K107S	Eng. Envir. Safety & Quality Programs	Linear	40.00 Hours
Factor	s 40 Hours		1 mech ena				
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	K238S	Radiation Protection	Linear	40.00 Hours
Factor	s 40 Hours		1 nuc eng				
750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	K265S	ER Programs	Linear	40.00 Hours
Factor	s 40 Hours		1 QC eng				
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	K266S	Envir, Safety, Health & Quality	Linear	40.00 Hours
Factor	s 40 Hours		1 safety eng				
750	STRAIGHT TIME BASE	P030	BUYERS PROCUREMENT AND CON	K264S	Procurement Systems	Linear	320.00 Hours
Factor	s 160 Hours		1 procurments buyer		2 months		

Line Item 20 - RFP Preperation

BOE

Estimators Experience - Estimator interviewed T-1 personnel who performed numerous subcontract support procurement and estimated resources required to complete RFP

Experience Item Desc - T-1 Subcontractor Procurements

Item - Subcontractor resources

Units - Dollars

Unit Cost - 51,000 Dollars

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - Comprehensive SOW/RFP for remediation of radiological facility, 903 Pad, 903 Lip Area and Americium Zone, and East Firing Range and Target Area.

Assumes 2 Engineers FTE for two months spread over the activity duration of 60 days at a rate of \$73 hour. Also provides 160 of administrative support at \$32.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element	Skill	Department	Curve	Quantity Units
	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	43.133.76 Dollars
		•			

Factors 51000 Dollars

0.84576 [SYS 061400] .84576000 - System

14.558

79.235

Line Item SYS - Contingency And Escalation BOE

Resources

es	Ca	ost Element	Skill		Department	Curve	<i>Ouantity</i>	Units
	CON CONTINGE	NCY 0000	NONE	ZDEPT	No Department	Linear	10.098.32	Dollars
	Factors 10098.3	Dollars						

WBS No: 1GAB0401 Baseline Devl Proiect **Rocky Flats Closure Project** 1GAB Activity ID: 1GGE161575 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter

Starts In FY ESC ESCALATION 0000 NONE ZDEPT No Department 4.460.09 Dollars Linear

4460.09 Dollars

Activity ID: 1GGE161580 Description: 903 Pad Procurement (Remediation) Cost Risk 2 Schedule Risk 2

Line Item	Description	Quantity	Units BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
			Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Procurement	1.00 eac	h EE	560	560	16.699	0	0	16.699	5.778	22,477
SYS	Contingency And Escalation	1.00 ea	EE	0	0	0	0	6.294		0	6.294
	Tot	al for Activity 10	GGE161580:		560	16.699	0	6.294	22,993	5.778	28.771

Line Item 10 - Procurement

BOE

Estimator's Experience - Estimator has interviewed T-1 Site personnel responsible for procurements.

Experience Item Desc - T-1 Site Procurements

Breakdown of Cost Data:

Item -Site resource labor hours

Units - Hours per month

Unit Cost - 560 labor hours

Unit Cost Adjustment factor -Revised Unit Cost -

Basis for adjustment -

BOE provides an environmental engineer, and a environmental scientist 160 hours over the 125 day procurement duration. It also provides a procurement buyer one-half time over the procurement duration of three months.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	160.00	Hours
	Factors	160 Hours		1 Environmental Engineer					
	750	STRAIGHT TIME BASE	P030	BUYERS PROCUREMENT AND CON	K265S	ER Programs	Linear	240.00	Hours
	Factors	160 hours		1 Procurement Buver		1.5 months			
	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	160.00	Hours
	Factors	160 Hours		 Environmental Scientist 					

Line Item SYS - Contingency And Escalation

BOE

Resources

es	Cost Element Skill			Department	Curve	Quantity	Units		
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	4.570.42	Dollars
	Factors	4570.42 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.723.66	Dollars

Factors 1723.66 Dollars

Activity ID:	1GGF161588	Description: 903 Pad Lin & Am Mohe & Site Preparation

GGE161588 Description: 903 Pad Lip & Am Mobe & Site Preparation								Cost Risk	3 Schedule F		
	n total	0	** .	DOE	* 1	* 1 **	* 1 . 0 .			m . In .	П

	Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
					Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10		Site Resources	1.00	each	EE	4.160	4.160	132.243	0	0	132.243	45.756	177.999
20		903 Lip and Am Mob Subs & Supplies	1.00	each	EE	0	0	0	195.437	0	195.437	0	195.437
30		Leases	1.00	each	EE	0	0	0	57.380	0	57.380	0	57.380
SYS	S	Contingency And Escalation	1.00	ea	EE	0	0	0	0	121.908	121.908	0	121.908
		Tot	al for Activi	ty 1GGE161	588:		4.160	132.243	252.817	121.908	506.967	45.756	552.723

Line Item 10 - Site Resources

BOE

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine site support requirements during T-1 remediation in weather structure Experience Item Desc - T-1 Remediation costs

Breakdown of Cost Data:

Item - Number of Site personnel support

Units - hours per month

Unit Cost - 4,160 hours Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - Labor resources required to remediate Lip Area and Americium Zone 1/2 those required for 903 Pad Remediation (no weather structure, lower contamination levels).

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Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

This BOE provides the required site resources to support the mobilization and site preparation for remediation of the 903 Lip area and Americium zone. It is estimated that the following site resource will be required at fulltime (or fraction of); 0.5 Crit Engineer, 0.5 QA, 2 Mangers Oversight, 1 Rad Engineer, 1 Safety, 7 RCTs, 6 D&D Worker, 1 Foreman and 6 D&D workers. The duration of the activity is one month.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	R100S	RMRS Salaried	Linear	40.00 Hours
F	actors	80 hours		0.5 Crit Engineer for AB				
	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K244S	Indep Oversight & Quality Assurance	Linear	480.00 Hours
F	actors	160 hours		3 Readiness Assors				
	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K107S	Eng. Envir. Safetv & Quality Programs	Linear	80.00 Hours
F	actors	160 Hours		0.5 QA		1		
	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	320.00 Hours
F	actors	160 Hours		2 Mangers Oversight				
L	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	160.00 Hours
F	actors	160 Hours		1 Rad Engineer				
	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K107S	Eng. Envir. Safety & Quality Programs	Linear	160.00lHours
F	actors	160 Hours		1 Safetv				
	750	STRAIGHT TIME BASE	T050		KG10H	Remediation Steelworkers	Linear	1.120.00lHours
F	actors	160 Hours		7 RCTs				
L	750	STRAIGHT TIME BASE	T060		KG10H	Remediation Steelworkers	Linear	240.00lHours
F	actors	40 Hours		6 D&D Worker				
L	751	OVERTIME BASE & PRE.	M010	II OILEMENT TEAM EEADO / CILOOT	R100S	RMRS Salaried	Linear	160.00lHours
F	actors	160 hours		1 Foreman		1		
L	751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	40.00lHours
F	actors	40 hours		1 Forman OT		I		
L	751	OVERTIME BASE & PRE.	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	80.00lHours
F	actors	40 Hours	D	2 Managers OT	D.1000	DI DO O I I I I		40.00
L	751	OVERTIME BASE & PRE.	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	40.00lHours
F	actors	40 hours		1 Rad Eng OT	1/0/01/	D 11.11 O. 1. 1		200.0011
Ļ	751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	280.00lHours
F	actors	40 Hours	Toos	7 RCT Overtime	1/040::	D		200 0011
Ļ	751	OVERTIME BASE & PRE.	T060		KG10H	Remediation Steelworkers	Linear	960.00lHours
F	actors	160 Hours		6 D&D worker				

Line Item 20 - 903 Lip and Am Mob Subs & Supplies

BOE

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine subcontractor support requirements during remediation in weather structure Experience Item Desc - T-1 Remediation costs

Breakdown of Cost Data:

Item - Subcontracted Services
Units - Dollars per month

Unit Cost - \$211,200

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - no weather structure, lower contamination levels, 1/2 site resources required to perform remediation activities at 903 Pad.

This BOE provides for a Project Manager, Project Supervisor, HSS Specialist, Waste Generator, Field Supervisor, Technician/Runner, a Geologist for one month fulltime with 40 hours of overtime for each for the one month duration of the activity.

This BOE also provides for the purchase of the soft side waste packages for packaging waste and the lifting frames for a activity total of \$211,200.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element			Skill		Department	Curve	Quantity	Units
	A5C	SUPPLIES	0000	NONE		K265S	ER Programs	Linear	95.000.00	Dollars
	Factors	380 Dollars		250	Soft sided waste pack					
		SUPPLIES	0000	NONE		K265S	ER Programs	Linear	14.000.00	Dollars
	Factors	7000 Dollars		2	Soft Sided Waste Pack Liftin	ıa				

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WBS No: 1GAB0401 Baseline Devl Proiect **Rocky Flats Closure Project** Activity ID: 1GGE161588 WBS Filter 1GAB **Baseline Cost and Basis of Estimate**

								Activity Filter			Starts In FY	
A5H	SUBCON	NTRACTED SRVS	0000	NONE		K265S	ER Programs		Linear		69.149.34	Dollars
Factors	73	Dollars		7	subcontractor personnel		1 month		160 hou	urs per mon	th	
									0.84576 [S	YS 0614001	.84576000 - \$	System
A5H	SUBCON	NTRACTED SRVS	0000	NONE		K265S	ER Programs		Linear		17.287.33	Dollars
Factors	73	Dollars		7	subcontract personnel		1 month		40 hou	urs OT per r	month	
									0.84576 [S	YS 0614001	.84576000 - \$	System

Line Item 30 - Leases

BOE

Estimators Experience - Estimator interviewed Trench 1 Field Supervisor to determine equipment leases required to complete T-1 excavation Experience Item Desc - T-1 Equipment Lease

Breakdown of Cost Data:

Item - Equipment Leases

Units - dollars per month Unit Cost - \$57,380

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - Equipment required for excavation in Lip Area similar to Pad excavation excluding support trailer, toilets, and supplied air compressors. H&S equipment costs are reduced based on outdoor excavation.

This BOE provides for the leasing of heavy equipment to be used for the excavation activity. It also provides health and safety equipment leases and lunches for the workers.

Resources

es	Cost Element			Skill		Department		Curve	Quantity	Units
	A5C SUPPLIES	0000	NONE		K265S	ER Programs		Linear	10.880.00	Dollars
I	Factors 17 Dollars		16	Men PPE		2 Suits per Day	20	Davs per mon	th	
	A5L RENTALS	0000	NONE		K265S	ER Programs		Linear	14.000.00	Dollars
I	Factors 14000 Dollars		1	Excavator	1					
	A5L RENTALS	0000	NONE		K265S	ER Programs		Linear	9.000.00	Dollars
I	Factors 9000 Dollars		1	Loader	1					
	A5L RENTALS	0000	NONE		K265S	ER Programs		Linear	2.500.00	Dollars
I	Factors 2500 Dollars		1	Fork Lift	1					
	A5L RENTALS	0000	NONE		K265S	ER Programs		Linear	5.000.00	Dollars
I	Factors 5000 Dollars		1	Water Truck						
	A5L RENTALS	0000	NONE		K265S	ER Programs		Linear	10.000.00	Dollars
1	Factors 10000 Dollars		_ 1	H&S equipment						
L	A5N FUEL & UTILITIES	0000	NONE		K265S	ER Programs		Linear	2.000.00	Dollars
1	Factors 2000 Dollars		_ 1	Fuel						
L	A5R MISC EXPENSES	0000	NONE		K265S	ER Programs		Linear	4.000.00	Dollars
I	Factors 8 Dollars		25	Men Lunches		20 days per month				

Line Item SYS - Contingency And Escalation

BOE

Resource

ces		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	88.870.72	Dollars
	Factors	88870.7 Dollars							
		ESCALATION	0000	NONE	ZDEPT	No Department	Linear	33,037.20	Dollars

33037.2 Dollars

Activity ID: 1G0	Description: 903 Pad Lip & Am Zone Rea	Readiness Review						Cost Risk	5 Schedule R	isk 5		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Site Resources	1.00	each	HC	3,680	3,680	106,587	0	0	106,587	32,377	138,964
20	Subcontract Support/Materials	1.00 each HC			0	0	0	86,437	0	86,437	0	86,437
30	Leases	1.00 each			0	0	0	57,380	0	57,380	0	57,380
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	58.526	58.526	0	58.526
	Tot	otal for Activity 1GGE161590:			3.680	106.587	143.817	58.526	308.930	32.377	341.307	

Line Item 10 - Site Resources

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine site support requirements during T-1 remediation in weather structure BOE

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WBS No: 1GAB0401 Activity ID: 1GGE161590

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Starts In FY

Units

Experience Item Desc - T-1 Remediation costs Breakdown of Cost Data: Item - Number of Site personnel support Units - hours per month Unit Cost - 3,680 hours Unit Cost Adjustment factor -Revised Unit Cost -

Basis for adjustment - Labor resources required to remediate Lip Area and Americium Zone 1/2 those required for 903 Pad Remediation (no weather structure, lower contamination levels).

This BOE provides the required site resources to support the mobilization and site preparation for remediation of the 903 Lip area and Americium zone. It is estimated that the following site resource will be required at fulltime (or fraction of); 0.5 Crit Engineer, 0.5 QA, 2 Mangers Oversight, 1 Rad Engineer, 1 Safety, 7 RCTs, 6 D&D Worker, 1 Foreman and 6 D&D workers. This BOE also provides for three readiness assessors fulltime for this activity. The duration of the activity is one month.

Resources

s	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	R100S	RMRS Salaried	Linear	40.00	Hours
Factor	s 80 hours	1	0.5 Crit Engineer for AB					
750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K107S	Eng. Envir. Safety & Quality Programs	Linear	80.00	Hours
Factor	s 160 Hours		0.5 QA					
750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	320.00	Hours
Factor	s 160 Hours		2 Mangers Oversight				1	
750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	160.00	Hours
Factor	1 12 12 12 12 12 12 12 12 12 12 12 12 12		1 Rad Engineer				1	
750		P090	INDUSTRIAL HYGIENISTS	K107S	Eng, Envir, Safety & Quality Programs	Linear	160.00	Hours
Factor	1 12 12 12 12 12 12 12 12 12 12 12 12 12		1 Safety					
750		T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	1,120.00	Hours
Factor			7 RCTs				1	
750	,	T060		KG10H	Remediation Steelworkers	Linear	240.00	Hours
Factor			6 D&D Worker					
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	160.00	Hours
Factor			1 Foreman					
751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	40.00	Hours
Factor			1 Forman OT			1		
751	OVERTIME BASE & PRE.	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	80.00	Hours
Factor			2 Managers OT			1		
751	OVERTIME BASE & PRE.	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	40.00	Hours
Factor			1 Rad Eng OT			1		
751	OVERTIME BASE & PRE.	T050		KG10H	Remediation Steelworkers	Linear	280.00	Hours
Factor			7 RCT Overtime			1		
751	OVERTIME BASE & PRE.	T060		KG10H	Remediation Steelworkers	Linear	960.00	Hours
Factor	s 160 Hours		6 D&D worker					

Line Item 20 - Subcontract Support/Materials

BOE

Resources

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine subcontractor support requirements during remediation in weather structure Experience Item Desc - T-1 Remediation costs

Item - Subcontracted Services Units - Dollars per month Unit Cost - \$102,200 Unit Cost Adjustment factor -

Cost Element

Basis for adjustment - no weather structure, lower contamination levels, 1/2 site resources required to perform remediation activities at 903 Pad.

This BOE provides for a Project Manager, Project Supervisor, HSS Specialist, Waste Generator, Field Supervisor, Technician/Runner, a Geologist for one month fulltime with 40 hours of overtime for each for the one month duration of the activity.

Department

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

1GAB0401 Baseline Devl Proiect **Rocky Flats Closure Project** 1GAB Activity ID: 1GGE161590 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs 17.287.33 Dollars Linear Factors 73 Hours 7 subcontract personnel 1 month hours OT per month 0.84576 [SYS 061400] .84576000 - System A5H 0000 NONE K265S ER Programs 69.149.34 Dollars SUBCONTRACTED SRVS Linear Factors 73 Dollars month hours per month 7 subcontract personnel 1 160 0.84576 [SYS 061400] .84576000 - System Line Item 30 - Leases Estimators Experience - Estimator interviewed Trench 1 Field Supervisor to determine equipment leases required to complete T-1 excavation Experience Item Desc - T-1 Equipment Lease Breakdown of Cost Data: Breakdown of Cost Data: Item - Equipment Leases Units - dollars per month Unit Cost - \$57,380 Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment - Equipment required for excavation in Lip Area and Americium Zone similar to Pad excavation excluding support trailer, toilets, and supplied air compressors. H&S equipment costs are reduced based on outdoor excavation. This BOE provides for the leasing of heavy equipment and fuel to be used for the excavation activity. It also provides health and safety equipment leases and lunches for the workers. Cost Element Skill Units Resources Department Curve **Ouantity** A5C SUPPLIES 0000 NONE K265S ER Programs 10.880.00 Dollars Linear Men PPE Factors 17 Dollars 16 Suits per Day 20 Days per month A5L RENTALS 0000 NONE K265S ER Programs Linear 14,000.00 Dollars Factors 14000 Dollars 1 Excavator A5L RENTALS NONE K265S ER Programs 9,000.00 Dollars 0000 Linear Factors 9000 Dollars Loader A5L RENTALS 0000 NONE K265S ER Programs 2,500.00 Dollars Linear Factors 2500 Dollars Fork Lift A5L RENTALS 0000 NONE K265S ER Programs Linear 5,000.00 Dollars Factors 5000 Dollars 1 Water Truck

Line Item SYS - Contingency And Escalation

Factors

A5L RENTALS

Factors 10000 Dollars

A5N FUEL & UTILITIES

Factors 2000 Dollars

A5R MISC EXPENSES

Dollars

8

0000

0000

NONE

NONE

25

0000 NONE

H&S equipment

Men Lunches

Fuel

BOE

WBS No:

BOE

Resources

ces		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	33.263.11	Dollars
	Factors	33263.1 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	25.263.33	Dollars

K265S ER Programs

K265S ER Programs

K265S ER Programs

days per month

20

25263.3 Dollars Factors

Activity ID: 1GG	E161620 Description: 903 Pad Lip & Americium Zo	ne Remediati	ion					Cost Risk	5 Schedule F	Risk 5		
Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
10	Site Resources	4.00 ea		EE	3.720	14.880	397.933	0	0	397.933	112.217	510.150
20	Subcontractor Support/Materials	1.00 ea	ach	EE	0	0	0	487.027	0	487.027	0	487.027
30	Leases	4.00 ea	ach	EE	0	0	0	229.520	0	229.520	0	229.520
SYS	Contingency And Escalation	1.00 ea EE			0	0	0	0	184.194	184.194	0	184.194
	Tota	Total for Activity 1GGE161620: 14.880 397.933					716.547	184.194	1.298.673	112.217	1.410.890	

Linear

Linear

Linear

10.000.00 Dollars

2.000.00 Dollars

4.000.00 Dollars

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY

Line Item 10 - Site Resources

BOE

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine site support requirements during T-1 remediation in weather structure Experience Item Desc - T-1 Remediation costs

Breakdown of Cost Data:

Item - Number of Site personnel support

Units - hours per month
Unit Cost - 3,720 hours
Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - Labor resources required to remediate Lip Area and Americium Zone 1/2 those required for 903 Pad Remediation (no weather structure, lower contamination levels).

This BOE provides the required site resources to support the mobilization and site preparation for remediation of the 903 Lip area and Americium zone. It is estimated that the following site resource will be required at fulltime (or fraction of); 0.5 Crit Engineer, 0.5 QA, 2 Mangers Oversight, 1 Rad Engineer, 1 Safety, 7 RCTs, 6 D&D Worker, 1 Foreman and 6 D&D workers. This BOE also provides for three readiness assessors fulltime for this activity. The duration of the activity is four months (3 for excavation one for demobilization and reclamation).

Resources

es		Cost Element		Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	R100S	RMRS Salaried	Linear	80.00 Hours
	Factors	160 hours		0.5 Crit Engineer for AB				
	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K107S	Eng. Envir, Safety & Quality Programs	Linear	80.00 Hours
	Factors	160 Hours		0.5 QA			T.	
	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	320.00 Hours
	Factors	160 Hours		2 Mangers Oversight				
	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	160.00 Hours
	Factors	160 Hours		1 Rad Engineer				
	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K107S	Eng. Envir. Safetv & Quality Programs	Linear	160.00 Hours
	Factors	160 Hours	1	1 Safetv				
	750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	1.120.00 Hours
	Factors	160 Hours	1	7 RCTs				
	750	STRAIGHT TIME BASE	T060	D&D HAZ REDUC TECH / RISK RED	KG10H	Remediation Steelworkers	Linear	960.00lHours
	Factors	160 Hours		6 D&D worker				
	751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	160.00lHours
	Factors	160 hours		1 Foreman			1	
	751	OVERTIME BASE & PRE.	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	40.00lHours
	Factors	40 hours		1 Forman OT			1	
	751	OVERTIME BASE & PRE.	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	80.00lHours
	Factors	40 Hours		2 Managers OT			1	
	751	OVERTIME BASE & PRE.	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	40.00lHours
	Factors	40 hours		1 Rad Eng OT			1	
	751	OVERTIME BASE & PRE.	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	280.00lHours
	Factors	40 Hours		7 RCT Overtime				
	751	OVERTIME BASE & PRE.	T060		KG10H	Remediation Steelworkers	Linear	240.00 Hours
	Factors	40 Hours		6 D&D Worker OT				

Line Item 20 - Subcontractor Support/Materials

BOE

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine subcontractor support requirements during remediation in weather structure Experience Item Desc - T-1 Remediation

Breakdown of Cost Data:

Item - Subcontracted Services

Units - Dollars

Unit Cost - \$550,080

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - no weather structure, lower contamination levels, 1/2 site resources required to perform remediation activities at 903 Pad.

This BOE provides for a Project Manager, Project Supervisor, HSS Specialist, Waste Generator, Field Supervisor, Technician/Runner, a Geologist for one month fulltime with 40 hours of overtime for each for the one month duration of the activity.

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Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY

The BOE also provides for backfill soil materials and topsoil/revegatation materials and misc. supplies.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element			Skill		Departme.	nt	Curve	,	Ouantity	Units
	A5C SUPPLIES	0000	NONE		K265S	ER Programs		Linea	r	6.000.00	Oollars
ď	Factors 10 Dollars		600	Backfill							
	A5C SUPPLIES	0000	NONE		K265S	ER Programs		Linea	r	35.280.00	Oollars
ď	Factors 21000 Dollars		1.68	Topsoil + labor		1					
Ĺ	A5C SUPPLIES	0000	NONE		K265S	ER Programs		Linea	r	100.000.001	Dollars
4	Factors 100000 Dollars		. 1	Supplies							
L	A5H SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs		Linea	r	69.149.34	Oollars
	Factors 73 Dollars		7	subcontract personnel		4 months		40 hc	ours per mon	ıth	
-						1		0.84576	SYS 0614001	1.84576000 - S	vstem
L	A5H SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs		Linea	r	276.597.30	Oollars
	Factors 73 Dollars		7	subcontract personnel		4 months		160 hc	ours per mon	ıth	
								0.84576	SYS 0614001	.84576000 - S	vstem

Line Item 30 - Leases

BOE

Estimators Experience - Estimator interviewed Trench 1 Field Supervisor to determine equipment leases required to complete T-1 excavation Experience Item Desc - T-1 Equipment Lease

Breakdown of Cost Data: Breakdown of Cost Data:

Item - Equipment Leases
Units - dollars per month

Unit Cost - \$57,380 (activity duration is 4 months)

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - Equipment required for excavation in Lip Area similar to Pad excavation excluding support trailer, toilets, and supplied air compressors. H&S equipment costs are reduced based on outdoor excavation.

This BOE provides for the leasing of heavy equipment to be used for the excavation activity. It also provides health and safety equipment leases and lunches for the workers.

The excavation is estimated at a 3 month duration with 1 additional month for demobilization for an active duration of 4 months.

Resources

					-			
s	Cost Element			Skill		Department	Curve	Quantity Units
A5C SUP	PLIES	0000	NONE		K265S	ER Programs	Linear	10.880.00 Dollars
Factors 17	7 Dollars		16	Men PPE		2 Suits per Dav	20 Dav	vs per month
A5L REN	TALS	0000	NONE		K265S	ER Programs	Linear	2.500.00 Dollars
Factors 25	500 Dollars		. 1	Fork Lift				
A5L REN	TALS	0000	NONE		K265S	ER Programs	Linear	9.000.00 Dollars
Factors 90	000 Dollars		_ 1	Loader				
A5L REN	TALS	0000	NONE		K265S	ER Programs	Linear	5.000.00 Dollars
Factors 50	000 Dollars		_ 1	Water Truck				
A5L REN	TALS	0000	NONE		K265S	ER Programs	Linear	10.000.00 Dollars
Factors 10	0000 Dollars		_ 1	H&S equipment				
A5L REN	TALS	0000	NONE		K265S	ER Programs	Linear	14.000.00 Dollars
Factors 14	1000 Dollars		_ 1	Excavator				
A5N FUE	L & UTILITIES	0000	NONE		K265S	ER Programs	Linear	2.000.00 Dollars
Factors 20	000 Dollars		_ 1	Fuel				
A5R MISC	EXPENSES	0000	NONE		K265S	ER Programs	Linear	4.000.00 Dollars
Factors 8	Dollars		25	Men Lunches		20 days per month		

Line Item SYS - Contingency And Escalation

BOE

Resources	Cost Element	Skill	Department	Curve	Ouantity	Units

WBS No: 1GAB0401 Rockv Flats Closure Proiect Proiect WBS Filter 1GAB
Activity ID: 1GGE161620 Rockv Flats Closure Proiect Baseline Cost and Basis of Estimate Proiect WBS Filter 1GAB
Activity Filter *

	Das	enne Cost and Basis of Estimate	Activity Filter *	Starts In FY *
CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	66.411.05 Dollars
Factors 66411.1 Dollars				
ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	117.782.80 Dollars

Factors 117783 Dollars

Activity ID: 1GGE161655 Description: East Firing Range Remediation Cost Risk 5 Schedule Risk 5

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	East Firing Range Site Resources	3.00	each	HC	3.720	11.160	324.953	0	0	324.953	92.495	417.447
20	East Firing Range Rem Subs & Supplies	1.00	each	HC	0	0	0	448.310	0	448.310	0	448.310
30	Leases	3.00	each		0	0	0	169.740	0	169.740	0	169.740
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	194.047	194.047	0	194.047
	To	Total for Activity 1GGE161655:					324.953	618.050	194.047	1.137.050	92.495	1.229.544

Line Item 10 - East Firing Range Site Resources

BOE

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine site support requirements during T-1 remediation in weather structure Experience Item Desc - T-1 Remediation costs

Breakdown of Cost Data:

Item - Number of Site personnel support

Units - hours per month

Unit Cost - 3,720 hours (3 month activity duration)

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - Labor resources required to remediate Lip Area and Americium Zone 1/2 those required for 903 Pad Remediation (no weather structure, lower contamination levels).

This BOE provides the required site resources to support the mobilization and site preparation for remediation of the 903 Lip area and Americium zone. It is estimated that the following site resource will be required at fulltime (or fraction of); 0.5 Crit Engineer, 0.5 QA, 2 Mangers Oversight, 1 Rad Engineer, 1 Safety, 7 RCTs, 6 D&D Worker, 1 Foreman and 6 D&D workers. The duration of the activity is three months (2 for excavation one for demobilization and reclamation).

Resources

s	Cost Element	Skill	Department	Curve	Ouantity Units
7	50 STRAIGHT TIME BASE	E080 NUCLEAR (CRITICALITY) ENGINEER	R100S RMRS Salaried	Linear	80.00 Hours
Fac	tors 160 hours	0.5 Crit Engineer for AB			
_ 7	50 STRAIGHT TIME BASE	M040 MANAGERS (GRADE 64 - 68)	K107S Eng. Envir. Safety & Quality Programs	Linear	80.00 Hours
Fac	tors 160 Hours	0.5 QA			
7	50 STRAIGHT TIME BASE	M040 MANAGERS (GRADE 64 - 68)	R100S RMRS Salaried	Linear	320.00 Hours
Fac	tors 160 Hours	2 Mangers Oversight			
7	50 STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear	160.00 Hours
Fac	tors 160 Hours	1 Rad Engineer			
7	50 STRAIGHT TIME BASE	P090 INDUSTRIAL HYGIENISTS	K107S Eng. Envir. Safety & Quality Programs	Linear	160.00 Hours
	tors 160 Hours	1 Safetv			
_ 7	50 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLIGI	KG10H Remediation Steelworkers	Linear	1.120.00 Hours
	tors 160 Hours	7 RCTs			
7	50 STRAIGHT TIME BASE	T060 D&D HAZ REDUC TECH / RISK RED	KG10H Remediation Steelworkers	Linear	240.00lHours
	tors 40 Hours	6 D&D Worker OT			
7	51 OVERTIME BASE & PRE.	I M010 IFOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	40.00lHours
	tors 40 hours	1 Forman OT	T = = I==== =		
	51 OVERTIME BASE & PRE.	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	160.00lHours
	tors 160 hours	1 Foreman	T = = T =		
	51 OVERTIME BASE & PRE.	M040 MANAGERS (GRADE 64 - 68)	R100S RMRS Salaried	Linear	80.00lHours
	tors 40 Hours	2 Managers OT	D. (200 D. (100 C. (1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1		10.00
	51 OVERTIME BASE & PRE.	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear	40.00lHours
	tors 40 hours	1 Rad Eng OT T050 RADIATION CONTROL TECHNOLIGE	KOAOLL Damadiation Otanhundura	1.5	000 0011
	51 OVERTIME BASE & PRE.	1 1 2 2 1 2 2 1 1 2 2 1 1 1 2 2	KGTUH Kemediation SteelWorkers	Linear	280.00 Hours
	tors 40 Hours 51 OVERTIME BASE & PRE.	7 RCT Overtime T060 D&D HAZ REDUC TECH / RISK RED	KC40LL Demodiation Stanlaughers	Linner	960.00 Hours
		6 D&D worker	KG10H Remediation Steelworkers	Linear	SinoHinoris
<i>гас</i>	tors 160 Hours	O DAD WOIKEI			

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WBS No: 1GAB0401 Activity ID: 1GGE161655

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

Line Item 20 - East Firing Range Rem Subs & Supplies

BOE

Estimator's Experience - Estimator interviewed T-1 Project Supervisor to determine subcontractor support requirements during remediation in weather structure Experience Item Desc - T-1 Remediation costs

Breakdown of Cost Data:

Item - Subcontracted Services Units - Dollars per month

Unit Cost - \$495,600

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - no weather structure, lower contamination levels, 1/2 site resources required to perform remediation activities at 903 Pad.

This BOE provides for a Project Manager, Project Supervisor, HSS Specialist, Waste Generator, Field Supervisor, Technician/Runner, a Geologist for one month fulltime with 40 hours of overtime for each for the three month duration of the activity.

The BOE also provides for backfill topsoil/revegatation materials for 3 acres, misc. supplies (50K), and waste packages.

Total activiy costs are \$495,600.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

Cost Element		Skill	Department	Curve Quantity Units
A5C SUPPLIES	0000 NONE		K265S ER Programs	Linear 76.000.00 Dollars
Factors 380 Dollars	200	Soft Sided waste containers		
A5C SUPPLIES	0000 NONE		K265S ER Programs	Linear 63.000.00 Dollars
Factors 21000 Dollars	3	acre Topsoil + labor		
A5C SUPPLIES	0000 NONE		K265S ER Programs	Linear 50.000.00 Dollars
Factors 50000 Dollars		Supplies		
A5H SUBCONTRACTED SRVS	0000 NONE		K265S ER Programs	Linear 51.862.00 Dollars
Factors 73 Dollars	7	subcontract personnel	3 months	40 hours per month
				0.84576 [SYS 061400] .84576000 - System
A5H SUBCONTRACTED SRVS	0000 NONE		K265S ER Programs	Linear 207.448.00 Dollars
Factors 73 Dollars	7	subcontract personnel	3 months	160 hours per month
				0.84576 [SYS 061400] .84576000 - System

Line Item 30 - Leases

BOE

Estimators Experience - Estimator interviewed Trench 1 Field Supervisor to determine equipment leases required to complete T-1 excavation

Experience Item Desc - T-1 Equipment Lease

Breakdown of Cost Data:

Item - Equipment Leases

Units - dollars per month

Unit Cost - \$56,580 (3 month activity duration)

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - Equipment required for excavation in Lip Area similar to Pad excavation excluding support trailer, toilets, and supplied air compressors. H&S equipment costs are reduced based on outdoor excavation.

This BOE provides for the leasing of heavy equipment to be used for the excavation activity. It also provides health and safety equipment leases and lunches for the workers.

The excavation is estimated at a 2 month duration with 1 additional month for demobilization for an activity duration of 3 months.

Resources

es	Cost Element			Skill		Department	Curve	Ouantity Units
	A5C SUPPLIES	0000 N	IONE		K265S	ER Programs	Linear	10.880.00 Dollars
ie.	Factors 17 Dollars		16 N	Men PPE		2 Suits per Dav	20 Davs per mo	nth
	A5L RENTALS	0000 N	IONE		K265S	ER Programs	Linear	2.500.00 Dollars
ie.	Factors 2500 Dollars		1 F	Fork Lift				
	A5L RENTALS	0000 N	IONE		K265S	ER Programs	Linear	5.000.00 Dollars
i e	Factors 5000 Dollars		1 \	Water Truck				
	A5L RENTALS	0000 N	IONE		K265S	ER Programs	Linear	9.000.00 Dollars
	Factors 9000 Dollars		1 L	_oader				

WBS No: Activity ID:	1GAB0401 1GGE161655					Closure P			S Filter	Baseline Devl 1GAB			
	A5L RENTALS	0000 NONE				K265S ER		Acti	vity Filter	* Linear		urts In FY * 0.000.00 Dollar	0
	Factors 10000 Dollars	1 0000 INCINE	H&S ea	uinment		N2033 ER	riouranis			Lilleal		0.000.00 <u> </u> D0 a	5
	A5L RENTALS	0000 NONE	1100 00	dibilion		K265S ER	Programs			Linear		4.000.00 Dollar	S
,	Factors 14000 Dollars	. 1	Excavat	or									
	A5N FUEL & UTILITIES	0000 NONE				K265S ER	Programs			Linear		2.000.00 Dollar	S
1	Factors 2000 Dollars	1	Fuel				_						
	A5R MISC EXPENSES	L 0000 INONE				K265S ER Programs				Linear		3.200.00 Dollar	S
	Factors 8 Dollars - Contingency And Escalation	20	Men Lur	ncnes		20	days per	montn					
BOE	- Contingency And Escalation												
		1										1	
Resources	CON CONTINGENCY	0000 NONE	Skill			70 F D T N 1	<u>Departi</u>	nent		Curve		uantity Unit	
	Factors 92134.3 Dollars					ZDEPT No I	Department			Linear		2.134.30 Dollar	S
	ESC ESCALATION 0000 NONE					ZDEPT No I	Denartment			Linear	10	1.912.70 Dollar	c
	Factors 101913 Dollars				2021 1 1101	ocbaranichi.			Lincal	1 13	71.512.7 OIDOIIAI	3	
Activity ID: 1		Project Support FY0	00						Cost Risk	1 Schedule l	Risk 1		
Line Item	Description		Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Si	ub Contingency	Total Prime	Burden Cost	Total Cost
			2	0.1110	Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Proiect Support		1.00	each	НС	260	260	7.909		0 0	7.909	3.859	11.768
	Project Support	al for Activi	ity 1GGE162	:001:		260	7.909		0 0	7.909	3.859	11.768	
	Estimator's Experience - Estimator has performed project responsibilities on 903 Pad Remediation Project for two years Experience Item Desc - 903 Pad Remediation Project Management Breakdown of Cost Data: Item - Units - Lot Unit Cost - Labor hours 260 Unit Cost Adjustment factor - Revised Unit Cost - Basis for adjustment												
Resources	Cost Element		Skill				Departi	nent		Curve	O	uantity Uni	ts
	750 STRAIGHT TIME BASE	M020 MANAGE	RS (GRAI	DE 69 - 72)		R100S RMF	RS Salaried			Linear		40.00 Hours	
Í	Factors 40 hrs	D OTUED	D	D.A.T /E. A. D.E.		D. 1000 D. 11						000 0011	
	750 STRAIGHT TIME BASE Factors 220 hrs	P170 OTHER	ADMINISTI	RATIVE & PF	ROFE	R100S RMF	RS Salaried			Linear		220.00 Hours	<u> </u>
Activity ID: 1		Project Support FY0						Г	Cost Risk	1 Schedule I	1		
Line Item	Description		Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Si Cost	& Escalation	Total Prime Cost	Burden Cost	Total Cost
10	Project Support			each	HC	2.800	2.800	113.699	39.5		153.281	54.234	207.515
SYS	Contingency And Escalation	T-4	1.00		EE	0	0.000	0	39.5	0 11.002		0	11.002
Line Item 10 -	Project Support	100	al for Activi	ity 1GGE162	:005:		2.800	113.699	39.5	82 11.002	164.282	54.234	218.517
вое	Estimator's Experience - Estimator Experience Item Desc - 903 Pad reme Breakdown of Cost Data: Item -Labor hours, subcontracted s Units - Hours Unit Cost - Labor hours 2,800, Sub Unit Cost Adjustment factor - Revised Unit Cost - Basis for adjustment This estimate includes a project pr	diation Project ervices contracted Serv	Manager	ment 6,800									
	linis estimate includes a project pr	Linea cost	reauction	S.			_						

WBS No: 1GAB0401 Baseline Devl Proiect Rocky Flats Closure Project 1GAB Activity ID: 1GGE162005 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY Units Cost Element Resources Skill Department Curve 750 STRAIGHT TIME BASE G010 ADMINISTRATIVE ASSISTANTS R100S RMRS Salaried Linear 900.00 Hours <u>9</u>00 hours M020 MANAGERS (GRADE 69 - 72) R100S RMRS Salaried 1.800.00 Hours 750 STRAIGHT TIME BASE Linear 1800 hrs 750 STRAIGHT TIME BASE P060 COMPUTER SYSTEMS ANALYSTS R100S RMRS Salaried 100.00 Hours Linear Factors 100 Hours P070 COST ESTIMATORS PLANNERS AN K265S ER Programs 39.581.57 Dollars A5H SUBCONTRACTED SRVS Linear 46800 dollars Factors 0.84576 [SYS 061400] .84576000 - System Line Item SYS - Contingency And Escalation BOE Units Resources Cost Element Skill Department Curve **Ouantity** CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 6.637.97 Dollars Factors 6637.97 Dollars 0000 NONE ZDEPT No Department 4.363.58 Dollars ESC ESCALATION Linear 4363.58 Dollars Activity ID: 1GGE162010 1 Schedule Risk Description: 903 Pad Project Support FY02 Cost Risk Total Cost Line Item Description Quantity Units ROELabor Labor Hours Labor Cost Materials/ Sub | Contingency Total Prime Burden Cost Type Hours/Unit **Total Total** Cost & Escalation Cost 10 Project Support 1.00 each HC 2.800 2.800 113.699 39.582 153.281 40.136 193.416 Contingency And Escalation 1.00 ea FF 28.909 28.909 28.909 SYS 0 0 0 Total for Activity 1GGE162010: 2.800 113.699 39.582 28.909 182.189 40.136 222.325 Line Item 10 - Project Support Estimator's Experience - Estimator has performed project responsibilities on 903 Pad Remediation Project for two years BOE Experience Item Desc - 903 Pad remediation Project Management Breakdown of Cost Data: Ttem -Units -Labor Hours, Subcontract dollars Unit Cost - Labor hours 2,800, Subcontracted Services \$46,800 Unit Cost Adjustment factor -Revised Unit Cost -Basis for adjustment The BOE provides for a fulltime project manager, halftime administrative assistant, halftime subcontract project controls personnel, and 100 hours for a computer systems personnel. This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions. Resources Cost Element Units 750 STRAIGHT TIME BASE G010 ADMINISTRATIVE ASSISTANTS R100S RMRS Salaried 900.00 Hours Linear 900 Administrative Assist hours Factors R100S RMRS Salaried 750 STRAIGHT TIME BASE MANAGERS (GRADE 69 - 72) Linear 1.800.00 Hours 1800 hrs project manager 750 STRAIGHT TIME BASE COMPUTER SYSTEMS ANALYSTS R100S RMRS Salaried Linear 100.00 Hours Factors 100 Hours Computer system operator A5H SUBCONTRACTED SRVS P070 COST ESTIMATORS PLANNERS AN K265S ER Programs 39.581.57 Dollars Linear Factors 46800 dollars project controls 0.84576 [SYS 061400] .84576000 - System Line Item SYS - Contingency And Escalation

Skill

0000 NONE

BOE Resources

Cost Flement

CON CONTINGENCY

Factors 19870.0 Dollars

Curve

Linear

Ouantity

19.870.01 Dollars

Units

Department

ZDEPT No Department

WBS No: 1GAB0401 Rockv Flats Closure Project Project Baseline Devl
Activity ID: 1GGE162010 Baseline Cost and Basis of Estimate 1GAB

ESC ESCALATION 0000 NONE ZDEPT No Department Linear 9.038.62 Dollars

Factors 9038.62 Dollars

Activity ID: 1GGE162015 Description: 903 Pad Project Support FY03 Cost Risk 1 Schedule Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Project Support	1.00	each	HC	2.800	2.800	113.699	39.582	0	153.281	39.340	192.620
SYS	Contingency And Escalation	1.00 ea EE				0	0	0	53.403	53.403	0	53.403
	Tot	al for Activi	ity 1GGE162	015:		2.800	113.699	39.582	53.403	206.684	39.340	246.024

Line Item 10 - Project Support

BOE

Estimator's Experience - Estimator has performed project responsibilities on 903 Pad Remediation Project for two years

Experience Item Desc - 903 Pad remediation Project Management

Breakdown of Cost Data:

Item -

Units -Labor Hours, Subcontract dollars

Unit Cost - Labor hours 2,800, Subcontracted Services \$46,800

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment

The BOE provides for a fulltime project manager, halftime administrative assistant, halftime subcontract project controls personnel, and 100 hours for computer systems personnel.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element		Skill		Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	G010	G010 ADMINISTRATIVE ASSISTANTS R1		RMRS Salaried	Linear	900.00	Hours
I	Factors 900 hours							
	750 STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	1,800.00	Hours
I	Factors 1800 hrs							
	750 STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	100.00	Hours
I	Factors 100 Hours							
	A5H SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K265S	ER Programs	Linear	39,581.57	Dollars
F	Factors 46800 dollars							

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element	Skill			Department	Curve	<i>Ouantity</i>	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	38.632.24	Dollars
	Factors	38632.2 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	14.771.15	Dollars

Factors 14771.2 Dollars

Activity ID: 1GGE162025 Description: 903 Pad Project Support FY04										Cost Risk	1 Schedule R	≀isk 1	
Line Item		Description		Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Proiect Support	1.00	each	HC	2.800	2.800	113.699	39.582	0	153.281	35.466	188.747
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	60.077	60.077	0	60.077
·	Tot	al for Activi	ty 1GGE162	025:		2.800	113.699	39.582	60.077	213.358	35.466	248.824

Line Item 10 - Project Support

BOE

Estimator's Experience - Estimator has performed project responsibilities on 903 Pad Remediation Project for two years

Experience Item Desc - 903 Pad remediation Project Management

Breakdown of Cost Data:

Item -

Units -Labor Hours, Subcontract dollars

Unit Cost - Labor hours 2,800, Subcontracted Services \$46,800

Unit Cost Adjustment factor -

Revised Unit Cost -

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

Basis for adjustment

The BOE provides for a fulltime project manager, halftime adminstrative assisstant, halftime subcontract project controls personnel, and 100 hours for computer systems personnel.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element		Skill		Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	900.00 Hours
Factors	900 hours					-	
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	1.800.00 Hours
Factors	1800 hrs					-	
750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	100.00 Hours
Factors	100 Hours					-	
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K265S	ER Programs	Linear	39.581.57 Dollars
Factors	46800 dollars						

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	36.803.96	Dollars
	Factors	36804 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	23,273.41	Dollars

Factors 23273.4 Dollars

WBS No: 1GAB	0A01 Titl	le: Group 000-5 (Present	_andfill)										
Activity ID: 1GC	P100000 Des	scription: Decision Document Pre	paration - IHSS	Grp 000-5					Cost Risk	3 Schedule R	Risk 3		
Line Item		Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
					Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	DOCUMENT PREPARA	OCUMENT PREPARATION			EE	800	800	42,760	143,779	0	186,539	15,094	201,633
SYS	S Contingency And Escalation			ea	EE	0	0	0	0	30,777	30,777	0	30,777
		Total for Activ	ity 1GCP100	0000:		800	42,760	143,779	30,777	217,316	15,094	232,411	

Line Item 0100 - DOCUMENT PREPARATION

BOE

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc - PO# ASC221460BK, Task# 4.7 with S.M. Stoller

Breakdown of Cost Data:

Item - Decision Document

Units - lot

Line Item SYS - Contingency And Escalation

Unit Cost - 800 hrs; \$170000 Sub/c Unit Cost Adjustment factor - none

Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K265S	ER Programs	Linear	800.00	Hours
_	Factors	800 HRS							
	A5H	SUBCONTRACTED SRVS	E050	ENVIRONMENTAL ENGINEERS	K265S	ER Programs	Linear	143.779.20	Dollars

Factors 170000 SUB/C DOLLARS

0.84576 [SYS 061400] .84576000 - System

BOE

Resources	Cost Element	Skill	Department	Curve	Ouantity	Units

WBS No: 1GAB0A01 Proiect Baseline Devl **Rocky Flats Closure Project** Activity ID: 1GCP100000 WBS Filter 1GAB **Baseline Cost and Basis of Estimate** Activity Filter CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 21354.5 Dollars

0000 NONE ESC ESCALATION Factors 9422.62 Dollars

Linear

Starts In FY

21.354.52 Dollars

9.422.62 Dollars

Activity ID: 1GC	P100010 Description: Project Scoping & Conceptua	Cost Risk 1 Schedule Risk 2										
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	DESIGN	1.00	each	EE	2.560	2.560	92.278	0	0	92.278	32.574	124.853
SYS				EE	0	0	0	0	18.661	18.661	0	18.661
	Tot	al for Activity 1GCP100010: 2.560 92.27				92.278	0	18.661	110.939	32.574	143.514	

ZDEPT No Department

Line Item 0100 - DESIGN

BOE

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc - Timberline estimate #EP1000-3C for the OU-7 Landfill

Breakdown of Cost Data:

Item - Project Scope / Concept Design Units - hrs

Unit Cost - 2650

Unit Cost Adjustment factor - none

Revised Unit Cost - none Basis for adjustment - none

Resources

es		Cost Element Skill			Department	Curve	Quantity	Units	
	750	STRAIGHT TIME BASE	E020	CIVIL ENGINEERS	K265S	ER Programs	Linear	1.560.00	Hours
_	Factors	1560 HRS							
Ĺ	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K265S	ER Programs	Linear	1.000.00	Hours

Line Item SYS - Contingency And Escalation

Factors

BOE

Resources

Line Item

es		Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	12,826.34	Dollars
	Factors	12826.3 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	5.834.55	Dollars

Labor

Hours/Unit

Λ

1.610

Labor Hours

Total

0

0

1.610

1.610

Labor Cost

Total

0

74.716

74.716

Factors 5834.55 Dollars

DESIGN OF CAP

PROJECT MGMT

Contingency And Escalation

1000

Activity ID: 1GCP100050 Description: Title II/Title III Design

Description

HRS

Cost Risk 1 Schedule Risk

Materials/Sub

erials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
328.689	0	328.689	0	328.689
0	0	74.716	22.841	97.557
0	84.437	84.437	0	84.437
328.689	84.437	487.842	22.841	510.683

Line Item 0100 - DESIGN OF CAP

BOE

0100

0200

SYS

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc - Timberline estimate #111111-3A for the OU-7 Landfill

Ouantity

1.00 each

1.00 each

Total for Activity 1GCP100050:

1.00 ea

Units

BOE

Type

EE

EE

EE

Breakdown of Cost Data:

Item - Design Units - lot

Unit Cost - \$388,632

Unit Cost Adjustment factor - none

Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

WBS No: 1GAB0A01 Proiect Baseline Devl **Rocky Flats Closure Project** 1GAB Activity ID: 1GCP100050 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY Units Skill Resources Cost Element Department Curve A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs Linear 125.341.60 Dollars \$/hr. Factors 2280 hours 65 0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS E050 ENVIRONMENTAL ENGINEERS K265S ER Programs Linear 171.520.10 Dollars Factors 3120 Hours 65 \$/hr. 0.84576 [SYS 061400] .84576000 - System K265S ER Programs 8.119.30 Dollars A5H SUBCONTRACTED SRVS G010 ADMINISTRATIVE ASSISTANTS Linear 384 HRS - SECR/CLERK SUPPORT 25 \$/hr. **Factors** 0.84576 [SYS 061400] .84576000 - System M020 MANAGERS (GRADE 69 - 72) K265S ER Programs 23.708.34 Dollars A5H SUBCONTRACTED SRVS Linear Factors 384 Hours 73 \$/hr. 0.84576 [SYS 061400] .84576000 - System Line Item 0200 - PROJECT MGMT Estimators Experience - Experience with similar Environmental Restoration project work scope BOE Experience Item Desc - Timberline estimate # EP1000-3C for the OU-7 Landfill Breakdown of Cost Data: Item - Project Mgmt Units - lot Unit Cost - 1610 hrs; Unit Cost Adjustment factor - none Revised Unit Cost - none Basis for adjustment - none Resources Cost Element Skill Units Department Curve **Ouantity** 750 STRAIGHT TIME BASE G010 ADMINISTRATIVE ASSISTANTS K265S ER Programs Linear 160.00 Hours Factors 160 HRS 750 STRAIGHT TIME BASE M020 MANAGERS (GRADE 69 - 72) 1.250.00 Hours R100S RMRS Salaried Linear Factors 1250 HRS 750 STRAIGHT TIME BASE P170 OTHER ADMINISTRATIVE & PROFE | R100S | RMRS Salaried Linear 200.00 Hours Factors 200 Line Item SYS - Contingency And Escalation BOE Resources Cost Element Skill Units Department Curve **Ouantity** CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 46,583.25 Dollars Factors 46583.3 Dollars 37,853.27 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department Linear Factors 37853.3 Dollars Activity ID: 1GCP100060 Description: Procure Design & Build Subcontract Cost Risk 1 Schedule Risk BOE Labor Labor Hours Labor Cost Materials/ Sub Contingency Total Prime Line Item Description Units Burden Cost Total Cost **Quantity** TypeHours/Unit Total & Escalation 0100 PROCUREMENT SUPPORT 1.00 each EE 410 11.928 11.928 4.127 16.055 410 SYS Contingency And Escalation 1.00 ea FF 0 Λ 4.451 4.451 0 4.451 11.928 4.451 16.379 20.506 Total for Activity 1GCP100060: 410 4.127 Line Item 0100 - PROCUREMENT SUPPORT Estimators Experience - Experience with similar Environmental Restoration project work scope BOE Experience Item Desc - Experience from T3/T4 project Breakdown of Cost Data: Item - Procurement

Imits - lot

Unit Cost - 250 hrs; 160 hrs. KH Procurement

Unit Cost Adjustment factor - none

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WBS No:
Activity ID:1GAB0A01
1GCP100060Rockv Flats Closure Proiect
Baseline Cost and Basis of EstimateProiect
WBS Filter
Activity FilterBaseline Devl
1GAB

Revised Unit Cost - none Basis for adjustment - none

Resources

es		Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units	
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	250.00	Hours	
	Factors	250 HRS								
	750	STRAIGHT TIME BASE	P030	BUYERS PROCUREMENT AND CON	K265S	ER Programs	Linear	160.00	Hours	

Factors 160 Hrs

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3.219.92	Dollars
	Factors	3219.92 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.231.15	Dollars

Factors 1231.15 Dollars

Activity ID: 1GCP100070 Description: OU7 Cap Construction Cost Risk 3 Schedule Risk 3

ACTIVITY ID: TO	Description: OUT Cap Construction							Cost Risk	3 Scheaule F	isk 3		
Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
0200	Proiect Mamt Support	1.00	each	EE	3.433	3.433	151.282	0	0	151.282	50.224	201.507
0250	Construction Management Support	1.00) Is	EE	4.954	4.954	174.896	0	0	174.896	58.064	232.960
LFEAER2210	Provide Fixed Price Contractor Support	1.00) Is	EE	0	0	0	705.070	0	705.070	0	705.070
LFEAER2220	Provide QA/QC	1.00) Is	EE	0	0	0	286.296	0	286.296	0	286.296
LFEAER2275	Proiect Setup/Trailer/ Road/Water/Traffic Con	1.00	each	EE	0	0	0	784.256	0	784.256	0	784.256
LFEAER2300	Clear & Grub	31.00	ea ea	TP	0	0	0	16.254	0	16.254	0	16.254
LFEAER2301	Geocomposite Laver - Upper and Lower	49.460.00) sf	EE	0	0	0	552.170	0	552.170	0	552.170
LFEAER2302	Install Gas Collection System	1.00	ea ea	EE	0	0	0	169.152	0	169.152	0	169.152
LFEAER2305	Prepare Existing Grade	24.990.00) cv	TP	0	0	0	35.296	0	35.296	0	35.296
LFEAER2310	Biota Laver 2" - 8" Diameter Rubble	74.970.00) cv	TP	0	0	0	1.694.035	0	1.694.035	0	1.694.035
LFEAER2315	Geotextile Fabric	49.460.00) sf	TP	0	0	0	643.476	0	643.476	0	643.476
LFEAER2330	Earthwork/Common Borrow	10.770.00) cv	TP	0	0	0	2.826.967	0	2.826.967	0	2.826.967
LFEAER2335	Earthwork/Engineered Fill	24.950.00) cv	TP	0	0	0	1.778.556	0	1.778.556	0	1.778.556
LFEAER2340	Provide Landscaping	22,829.00) sy	TP	0	0	0	297,767	0	297,767	0	297,767
LFEAER2345	Place Top Soil	49,980.00) cy	TP	0	0	0	815,832	0	815,832	0	815,832
LFEAER2350	Clean Out Old Ditch	770.00) cy	EE	0	0	0	3,132	0	3,132	0	3,132
LFEAER2360	Repair/Install New Slurry Wall	46,405.00) sf	EE	0	0	0	893,092	0	893,092	0	893,092
LFEAER2370	Weather Allowance/Show-Up Time	1.00	ls	EE	0	0	0	53,947	0	53,947	0	53,947
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	5,088,317	5,088,317	0	5,088,317
	-	Total for Activ	ity 1GCP100	070:		8.387	326.178	11.555.298	5.088.317	16.969.793	108.288	17.078.081

Line Item 0200 - Project Mgmt Support

This estimate is based on estimator judgement, historical data, and commercial databases from similar type work.

For more complete detail refer to Timberline estimate No. EP1000-3C for the OU-7 Landfill Cover

Resources

s		Cost Element		Skill		Department	Curve	Quantity Units
	750	STRAIGHT TIME BASE	G040	SECRETARIES	K265S	ER Programs	Linear	384.00 Hours
-	Factors	384 Hours						
	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K265S	ER Programs	Linear	384.00 Hours
÷	Factors	384 Hours						
	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	1.920.00 Hours
÷	Factors	1920 HRS						
L	750	STRAIGHT TIME BASE	P070	COST ESTIMATORS PLANNERS AN	K265S	ER Programs	Linear	745.00 Hours

Factors 745 Hours
Line Item 0250 - Construction Management Support

BOE This estimate is based on estimator judgement, historical data, and commercial databases from similar type work.

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Starts In FY

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl Ilter 1GAB

Starts In FY *

For more complete detail refer to Timberline estimate No. EP1000-3C for the OU-7 Present Landfill Cover under Typical Construction Management and Non Typical Construction Management

Resources

25	Cost Element		Skill		Department	Curve	Ouantity	Units
7	50 STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K265S	ER Programs	Linear	1.800.00 H	
Fac	etors 1800 Hours							
7	50 STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K265S	ER Programs	Linear	240.00 H	lours
Fac	etors 240 Hours							
7	50 STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K265S	ER Programs	Linear	244.00 H	lours
Fac	etors 244 Hours							
7	50 STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K265S	ER Programs	Linear	730.00 H	Hours
Fac	etors 730 Hours							
7	50 STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	K265S	ER Programs	Linear	80.00 H	Hours
Fac	etors 80 Hours							
7	50 STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K265S	ER Programs	Linear	1.800.00 H	lours
Fac	etors 1800 Hours							
_ 7	50 STRAIGHT TIME BASE	P150	TRAINERS	K265S	ER Programs	Linear	60.00 H	Hours
-								

Factors 60 Hours

Surveyor

Line Item LFEAER2210 - Provide Fixed Price Contractor Support

BOE

```
BOE is correct. Line item will adjust through change control to reflect correct costs.
Total line item costs = $1,385.886
Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc - Timberline estimate #EP1000-3C for the OU-7 Landfill
Breakdown of Cost Data:
Item - Construction Support
 Unit Cost Adjustment factor - none
 Revised Unit Cost - none
 Basis for adjustment - none
Project Manager
2249hrs x $83.00 = $186,667
Superintendent
40 \text{hrs/wk} \times 4.33 \text{wk/mo} = 173 \text{hrs/mo} \times 13 \text{ months} = 2249 \text{hrs} \times $57.00 = $128,193
Secretary Support
1.00 \text{ ls } 570 \text{ mh x } $35 = $19,950
Submittals
1.00 \text{ ls } 40\text{mh x } \$83.00 = \$3320
Scheduling
1.00 \text{ ls } 228 \text{ mh x } $57.00 = $12,996
Estimating
1.00 \text{ ls } 357 \text{ mh x } $57 = $20,349
Procurement
1.00 ls 240 mh x $57 = $13,680
Action Item Log
1.00 \text{ ls } 285 \text{ mh x } $57 = $16245
```

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Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

4.33wks/month x 40hrs/wk = 347hrs/mo x 11 month = 3817 hrs x \$25.00 = \$95,387 Material \$200/mo x 11 Months = \$2200, Equipment \$283/mo x 11 months = \$3113 Total \$95,387+2200+3113= \$100,700 Health and Safety Compliance/Health & Safety Plan 1.00 ls = 2280 mh x \$69.00 = \$157,320Badging 1.00 ls = 72 mh x \$25.00 = \$1799 plus equipment \$50.00 total \$1849 1.00 ls = 720 mh x \$25.00 = \$17,993As Built Drawings 1.00 ls = 40 mh x \$57.00 = \$2280Mobilization/Demob 36 items of equipment 36 items x 16hrs = 576 hrs x \$24.55/hr = \$14,141 Equip Price 1200 Equipment Amt. 43,200 Total - \$57341 Equipment Allowance $40 \text{ wks } \times 80 = 3200 \text{ mhrs } \times $25 = $80,000$ Equipment Price \$3120 x 40 = \$124,800 Total \$204800 Office/Power & Phones to trailers/ 13 months x \$1000/month = \$13000 1.00 ls = 48 mh x \$33.94=\$1629, Material & Equipment \$2400 - Total \$4,029 1.00 ls = 24 mn x \$33.94=\$815, Material & Equipment \$1200 - Total \$2,015 Pre-evolution meeting 1.00 ls 1026 mh x \$24.99=\$25,640 Portable Toilet 13 mo x 3 ea x \$39/mo, Material \$135, Total = \$5265 Pickup Trucks/Flat Bed Truck (5 trucks) 285wks x \$319 = \$90,915 $57 \text{ wks } \times \$521 = \$29,697$ Water/Generator 57 wks x \$50= \$2850 57 wks x \$145= \$8265 Parts Van (2ea) 114 wks x \$75 = \$8550 Phones/Pagers 57 wks x \$50 = \$2850 Sales Tax 1.00 ls 3.8% of Materials \$249,127 This estimate is based on estimator judgement and historical data from similar type work. For more complete detail refer to Timberline estimate No. EP1000-3C. This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources Cost Element Skill Department Curve Quantity Units

Rockv Flats Closure Proiect Proiect Baseline Devl
Baseline Cost and Basis of Estimate Proiect WBS Filter 1GAB
Activity Filter *

A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs Linear 705.069.50 Dollars

Factors 833652 Dollars

1GAB0A01

Line Item LFEAER2220 - Provide QA/QC

1GCP100070

0.84576 [SYS 061400] .84576000 - System

Starts In FY

BOF

WBS No:

Activity ID:

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc - Timberline estimate #EP1000-3C for the OU-7 Landfill Breakdown of Cost Data:

Item - OA/OC

Unit Cost Adjustment factor - none Revised Unit Cost - none Basis for adjustment - none

SO

4.33wks/month x 80hrs/wk = 346 hrs/mo x13 months = 4498 x \$69.00 = \$310,362 Material 2165 x 13 months = \$28,145, Total - \$338,507

This estimate is based on estimator judgement and historical data from similar type work.

For more complete detail refer to Timberline estimate #EP1000-3C for the OU-7 Landfill.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	286,295.70	Dollars

Factors 338507 Dollars

Line Item LFEAER2275 - Project Setup/Trailer/ Road/Water/Traffic Con

0.84576 [SYS 061400] .84576000 - System

BOE

SEE BELOW FOR THE FOLLOWING TEMPLATE INFORMATION

Trade Publication - Publication Date - Volume/Page - Trade Pub. Item Desc - Breakdown of Trade Pub. Cost Data: Unit Cost Adjustment factor - none - Revised | Unit Cost - none - Basis for adjustment - none

Contractor Yard
Set Up Yard
1.00 ls 64 mh x \$25=\$1600 Equipment Price \$346 Total Cost - \$1946
Office Trailer
1.00 ls 32 mh x \$25=\$800 Equipment Price \$173 Total Cost - \$973
Parts Van
1.00 ls 64 mh x \$25=\$1600 Equipment Price \$346 Total Cost - \$1946
Gravel Yard & Road to Yard

1.00 ls 440 mh x \$25=\$11000 Equip Price \$1397 Material Price \$12,375 Total Cost - \$24,772

Grand Total Cost - \$29,637

Erosion Control
Install Silt Fence
6990 Lf 118.83 mh x 16.92 =\$2011
Materials 6990 x \$0.35= \$2447 Total \$4457
Remove Silt Fence
59.42 x \$16.92= \$1005
Total Cost - \$5462

Haul Road Haul Road Maintenance 1600 mh x \$25=\$40000

Equipment Price \$2875 x 40=\$115000 Total Cost - \$155000

Dust Control on Haul Road 1600 mh x \$23.82 = \$38,112

Equipment Price 40 x \$3685=\$\$147400 Total Cost - \$185512

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Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

Construct Haul Road 1.00 ls 100 mh x \$25= \$2500 Material Price \$1230 Equipment Price \$2947 Total Cost - \$6677 Remove Haul Road 1.00 ls 67 mh x \$25= \$1675 Equipment Price \$1965 Total Cost - \$3640 Grand Total Cost - \$350,811 Traffic Control Barricades, Cones, Delineators, Signs @ Hwy 93 For 13 months 8996 mh x \$16.92=\$152,212 Materials - 13 mon.x \$3000=\$39000 Flagman 8996 mh x \$16.92=\$152,212 Materials - 13 mon.x \$100= \$1300 Total Cost \$344,724 Water Supply (3) 4" Dia. Pumps 4800 mh x \$16.92=\$81,216 Equipment 537 x 120 wks =\$64,440 Elevated Water Tower (3) 318 x 120 wks = \$38160 Suction/Discharge Hose, 4" Dia 60 x 120 wks = \$7200 Install/Remove 4" Pump 2 x 24 mh x \$25 = \$1200 Equipment 2 x 112.78 x 3 = \$676 Install/Remove Water Towers 2 x 48 x \$25 = \$2400 Equipment 2 x 225.56 x 3 = \$1354Grand Total Costs - \$196,646 Activity Total Cost - \$927,280/ This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

ces		Cost Element		Skill		Department	Curve	Ouantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	784.256.30	Dollars

Factors 927280 Dollars

Line Item LFEAER2300 - Clear & Grub

0.84576 [SYS 061400] .84576000 - System

BOE

SEE BELOW FOR THE FOLLOWING TEMPLATE INFORMATION

Trade Publication - Publication Date - Volume/Page - Trade Pub. Item Desc - Breakdown of Trade Pub. Cost Data: Unit Cost Adjustment factor - none - Revised Unit Cost - none - Basis for adjustment - none

248 mh x \$25 = \$6200 Equipment Price 31 acres x \$420 = \$13,020 Total Cost - \$19218 \$19218/31acres = \$619.94/acre

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element Skill		Skill		Department	Curve	Quantity	Units	
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	524.32	Dollars

Factors 619.935 Dollars

0.84576 [SYS 061400] .84576000 - System

Line Item LFEAER2301 - Geocomposite Layer - Upper and Lower

BOE Geocomposite Layer for Erosion Control (2 layers)

This estimate is based on estimator judgement, historical data, and commercial databases from similar type work.

For more complete detail refer to Timberline estimate #EP1000-3C for the OU-7 Landfill.

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Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Starts In FY

1,349,460 sf x .002mh/sf = 2698mh x \$16.92 = \$45,665

1,349,460 sf x .45/sf = \$607,257

Total Costs - \$652,922/1,349,460sf = \$0.4838/sf

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resource

BOE

ces		Cost Element		Skill	Department	Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE K265S	ER Programs	Linear	0.41	Dollars

0.4838 Dollars Factors

0.84576 [SYS 061400] .84576000 - System

Line Item LFEAER2302 - Install Gas Collection System

Gas Monitoring & Collection System

From Stoller Conceptual Cost Estimate: \$200,000

This estimate is based on estimator judgement, historical data, and commercial databases from similar type work.

For more complete detail refer to Timberline estimate #EP1000-3C for the OU-7 Landfill.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000 NO	ONE	K265S	ER Programs	Linear	169.152.00	Dollars

Factors 200000 Dollars

Line Item LFEAER2305 - Prepare Existing Grade

BOE

SEE BELOW FOR THE FOLLOWING TEMPLATE INFORMATION

Trade Publication - Publication Date - Volume/Page - Trade Pub. Item Desc - Breakdown of Trade Pub. Cost Data: Unit Cost Adjustment factor - none - Revised Unit Cost - none - Basis for adjustment - none

Ripping Existing Soil, 6" deep Lab: 24,990 cy x .012 hrs/cy x 24.99/hr = \$7494Equip: 24,990 cy x \$0.44 = \$10,996

Compaction sheepfoot 6" lifts, 4 passes Lab: 24,990 cy x .005 hrs/cy x \$24.99 = \$3122

Equip: 24,990 cy x \$0.22/cy = \$5498

Water Truck 3,000 gallon Lab: 24,990cy x 008hrs/cy x \$24.55 = \$4908Equipment: 24,990 cy x \$0.39/cy = \$9746

Total: \$41,764/24,990 cy = \$1.67/cy

This estimate is based on estimator judgement, historical data, and commercial databases from similar type work.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resource

ces		Cost Element		Skill		Department	Curve	Ouantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	1.41	Dollars

1.67 Dollars Factors

0.84576 [SYS 061400] .84576000 - System

Line Item LFEAER2310 - Biota Layer 2" - 8" Diameter Rubble BOE

SEE BELOW FOR THE FOLLOWING TEMPLATE INFORMATION

Trade Publication - Publication Date - Volume/Page - Trade Pub. Item Desc - Breakdown of Trade Pub. Cost Data: Unit Cost Adjustment factor - none - Revised Unit Cost - none - Basis for adjustment - none

Haul Rubble 20 miles RT 16.5 cy trucks 74,970 cy 5,547.78 mh x \$23.82 = \$132,148

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Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY

Equip Price 5.18 x 74,970 = \$388,345 Total - \$520,493

Rubble Fill

Line Item LFEAER2315 - Geotextile Fabric

2,324.07 mh x \$25 = \$58,079

Material Price 17.75 x 74,970 =\$1,330,718

Equipment Price $1.25 \times 74,970 = $93,713 \text{ Total} - $1,482,509$

Grand Total -\$2,003,001 \$2,003,001/74,970cy = \$26.717/cy

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element	Skill	Department	Curve	Ouantity	Units
	A5H	SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	22.60	Dollars

Factors 26.717 Dollars

0.84576 [SYS 061400] .84576000 - System

BOE

SEE BELOW FOR THE FOLLOWING TEMPLATE INFORMATION

Trade Publication - Publication Date - Volume/Page - Trade Pub. Item Desc - Breakdown of Trade Pub. Cost Data: Unit Cost Adjustment factor - none - Revised Unit Cost - none - Basis for adjustment - none

Geotextile Fabric

Labor: 1,349,460 sf x .002 hrs/sf x \$16.92 = \$45,666

Materials: 1,349,460 sf x .53 = \$715,213

\$760,878/1,349,460 = \$0.5638

This estimate is based on estimator judgement, historical data, and commercial databases from similar type work.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

ces		Cost Element		Skill		Department	Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	0.48	Dollars

Factors 0.5638 Dollars

0.84576 [SYS 061400] .84576000 - System

Line Item LFEAER2330 - Earthwork/Common Borrow

BOE

SEE BELOW FOR THE FOLLOWING TEMPLATE INFORMATION

Trade Publication - Publication Date - Volume/Page - Trade Pub. Item Desc - Breakdown of Trade Pub. Cost Data: Unit Cost Adjustment factor - none - Revised Unit Cost - none - Basis for adjustment - none

Common Borrow, Buy &ld at pit, haul 20 Miles rt Lab:242,556 cy x .005hrs/cy x \$24.99/hr = \$30,307 Mat:242,556 cy x \$3.75/cy = \$909,585 Equip:242,556 cy x \$0.42 = \$101,874

Spread Common Borrow, with dozer, no compaction Lab:210,770 cy x .012 hrs/cy x \$24.99 = \$63,206 Equip:210,770 cy x \$0.84/cy = \$177,047

Haul Common Borrow, 20 mile rt, 16.5 cy Truck Lab: 242,556 cy x .074hrs/cy x \$24.55/hr = \$440,651 Equip: 242,556 cy x 5.18 = \$1,256,440

Compaction sheepsfoot, 6" lift 4 passes Lab: 210,770 cy x .005 hrs/cy x \$24.99/hr = \$26,336 Equip: 210,770 cy x 0.22 = \$46,369

Water Truck 3,000 gallon Lab: 210,770cy x 008hrs/cy x \$23.82 = \$40,164 Equipment:210,770 cy x \$0.39/cy = \$82,200

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Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY

Disk and Tractor

Lab: 210,770 cy x 0.005 hrs/cy x \$24.99 = \$26,336

Equip: 210,770 cy x 0.16/cy = \$33,723

Spotter @ Fill (4 ea.)

Labor: 40 wks x 160hrs/wks x \$16.92 = \$108288

Total: \$3,342,527/210,770 cy = \$15.85/cy

This estimate is based on estimator judgement, historical data, and commercial databases from similar type work.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

ces	Cost Element	Skill	Department	Curve	Ouantity Units
	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	13.41 Dollars

Factors 15.8586 Dollars

0.84576 [SYS 061400] .84576000 - System

Line Item LFEAER2335 - Earthwork/Engineered Fill

BOE

SEE BELOW FOR THE FOLLOWING TEMPLATE INFORMATION

Trade Publication - Publication Date - Volume/Page - Trade Pub. Item Desc - Breakdown of Trade Pub. Cost Data: Unit Cost Adjustment factor - none - Revised Unit Cost - none - Basis for adjustment - none

Engineered fill, Buy &ld at pit, haul 20 Miles rt Lab:143,693 cy x .005hrs/cy x \$24.99/hr = \$17,954 Mat:143,693 cy x \$5.05/cy = \$725,649

Mat:143,693 cy x \$5.05/cy = \$725,649 Equip:143,693 cy x \$0.42 = \$60,351

Spread Engineered fill, with dozer, no compaction Lab:124,950 cy x .012 hrs/cy x \$24.99 = \$37,470 Equip:124,950 cy x \$0.84/cy = \$104,958

Haul Engineered Fill, 20 mile rt, 16.5 cy Truck Lab: 143,693 cy x .074hrs/cy x \$24.55/hr = \$261,047 Equip: 143,693 cy x 5.18 = \$744,329

Compaction sheepsfoot, 6" lift 4 passes Lab: 124,950 cy x .005 hrs/cy x \$24.99/hr = \$15,613 Equip: 124,950 cy x 0.22 = \$27,489

Water Truck 3,000 gallon Lab: 124,950cv x 008hrs/cv x

Lab: 124,950cy x 008hrs/cy x \$23.82 = \$23,810 Equipment:124,950 cy x \$0.39/cy = \$48,731

Disk and Tractor

Lab: 124,950 cy x 0.005 hrs/cy x \$24.99 = \$15,613

Equip: 124,950 cy x 0.16/cy = \$19,992

Total: \$2,103,007/124,950 cy = \$16.83/cy

This estimate is based on estimator judgement, historical data, and commercial databases from similar type work.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element		Skill		Department	Curve	Ouantity	Units
	A5H	SUBCONTRACTED SRVS	0000 NONE	K265S	ER Programs	Linear	14.23	Dollars

Factors 16.83 Dollars

0.84576 [SYS 061400] .84576000 - System

Line Item LFEAER2340 - Provide Landscaping

BOE SEE BELOW FOR THE FOLLOWING TEMPLATE INFORMATION

Trade Publication - Publication Date - Volume/Page - Trade Pub. Item Desc - Breakdown of Trade Pub. Cost Data: Unit Cost Adjustment factor - none - Revised

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Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

Unit Cost - none - Basis for adjustment - none

Seeding

Lab: 222,829sy x 0.048hrs/sy x \$24.99 = \$267,288

Material: 222,829sy x \$0.16/sy = \$35,653 Equip: 222,829sy x 0.22hrs/sy = \$49,022

Total: \$351,963/222,829 sy = \$1.58 sy

This estimate is based on estimator judgement, historical data, and commercial databases from similar type work.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

ces	Cost Element Skill		Department	Curve	Ouantity Units
	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	1.34 Dollars

Factors 1.58 Dollars

0.84576 [SYS 061400] .84576000 - System

Line Item LFEAER2345 - Place Top Soil

BOE

SEE BELOW FOR THE FOLLOWING TEMPLATE INFORMATION

Trade Publication - Publication Date - Volume/Page - Trade Pub. Item Desc - Breakdown of Trade Pub. Cost Data: Unit Cost Adjustment factor - none - Revised Unit Cost - none - Basis for adjustment - none

Topsoil, Buy &ld at pit,

Lab: 57,477 cy x .005hrs/cy x \$24.99/hr = \$7182

Mat: 57,477 cy x \$7.50/cy = \$431,078Equip: 57,477 cy x \$0.42/cy = \$24,140

Topsoil, Spread w/dozer, no compaction

Lab: 49,980 cy x .012 hrs/cy x \$24.99 = \$14,988 Equip: 49,980 x 0.84 hrs/cy x \$24.99 = \$41,983

Topsoil, Haul 20 miles rt, 16.5 cy trucks

Labor: 57,477 cy x 0.074hrs/cy x \$24.55 = \$104,418

Equip: 57,477 cy x 5.18 = \$297,730

Water Truck

Lab: 49,980cy x 008hrs/cy x \$23.82 = \$9524

Equipment: $49,980 \text{cy} \times \$0.39/\text{cy} = \$19492$

Disk and Tractor

Lab: 49,980cy x 0.005 hrs/cy x \$24.99 = \$6245

Equip: $49,980 \text{cy} \times 0.16/\text{cy} = 7997

Total: \$964,778/49,980 cy = \$19.30/cy

This estimate is based on estimator judgement, historical data, and commercial databases from similar type work.

For more complete detail refer to Timberline estimate No. 111111-3A "OU-7 Landfill Cap" by John Hopkins, RMRS X4974.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

ces	Cost Element			Skill		Department	Curve		Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	16.32	Dollars

Factors 19.3 Dollars

0.84576 [SYS 061400] .84576000 - System

Line Item LFEAER2350 - Clean Out Old Ditch

BOE

Excavating, Bulk Bank Measure
Excavating, Backhoe, hyd, crawler mtd.,3 cy cap = 160cy/hr
Mat: 770cy x .0125hrs/cy x \$26.015/cy = \$250
Equip:770 x .0625hrs/cy x \$262.13/hr = \$1,262

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Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY

Fill

Fill spread dumped material By Dozer Lab: 770cy x 0.012 hrs/cy x \$23.44 = \$217 Equip: 770cy x .008hrs/cy x \$102.45 = \$631

Hauling

Hauling, Bank Measure, 12 cy dump truck, 1/4 mi RT 3.7 loads/hr

Lab: 770cy x .02247hrs x \$27.89 = \$483 Equip:770cy x .02247hrs x \$49.83 = \$862

Total: \$3,704/770 cy = \$4.81 cy

This estimate is based on estimator judgement, historical data, and commercial databases from similar type work.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

3	Cost Element Skill		Skill	Department	Curve	Quantity	Units
A5H	A5H SUBCONTRACTED SRVS 0000 NONE		NONE	K265S ER Programs	Linear	4.07	Dollars

Factors 4.81 Dollars

0.84576 [SYS 061400] .84576000 - System

Line Item LFEAER2360 - Repair/Install New Slurry Wall

BOE

This template is taken from historical cost on slurry walls (S.M. Stoller/Terramatrix DataO during the IM/IRA Decision Document. Reference the IM/IRA Decision Document

Direct Cost

Construct Slurry Wall

1.00 ls 46,405 sf x \$13.00/sf = \$603265

Indirect Cost

Project/Const Maanagement

1.00 ls \$120,700 Contractors OH&P

Contractors OF

1.00 ls \$150,900

Construction Quality Assurance 1.00 ls \$90,500

Health & Safety Oversight

1.00 ls \$30,200

Administrative

1.00 ls \$60400

Total Project Costs - \$1,055,965/46405sf = \$22.7554

This estimate is based on estimator judgement, historical data, and commercial databases from similar type work.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

Cost Element			Skill	Department	Curve	Quantity	Units
A5H	A5H SUBCONTRACTED SRVS 0000 NONE		ONE	K265S ER Programs	Linear	19.25	Dollars

Factors 22.7554 Dollars

0.84576 [SYS 061400] .84576000 - System

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WBS No: 1GAB0A01 **Rocky Flats Closure Project** Activity ID: 1GCP100070 **Baseline Cost and Basis of Estimate**

Baseline Devl Proiect WBS Filter 1GAB Activity Filter

Starts In FY *

0.84576 [SYS 061400] .84576000 - System

Line Item LFEAER2370 - Weather Allowance/Show-Up Time

BOE

Backup for Weather Allowance and Showup Time Weather Allowance/Clean-up Site 5 men @ 12 days 1.00 ls 480 mh x \$24.99 = \$11,995Blade (2ea) 192 hrs x \$55.37 = \$10,631 Loader 96 hrs. x \$56.39 = \$5413 Pickup Truck 96 hrs. x \$14.44 = \$1386 Diaphragm Pump, 3" Dia. 96 hrs. x \$2.07 = \$199 Backhoe 96 hrs. x \$21.60 = \$2074 Total Cost for Weather Allowance - \$31,698 Show-Up Time 1.00 ls 1284 mhrs x \$24.99 = \$32,087

Grand Total Cost - \$63,785

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources Cost Element		Skill	Department	Curve	Ouantity Units
	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	53.946.80 Dollars
	Factors 63785 Dollars				

Line Item SYS - Contingency And Escalation

BOE

Resources

es	S Cost Element Skill			Department	Curve	Quantity	Units		
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3.401.987.00	Dollars
	Factors	3401987 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.686.330.00	Dollars

1686330 Dollars Factors

Activity ID: 1GC	P100105 Description: Procure Modeling Services S			Cost Risk	1 Schedule K	isk 1						
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	Develop SOW/Procurement Package	1.00	each	EE	435	435	12.859	0	0	12.859	6.134	18.992
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.007	1.007	0	1.007
Total for Activity 1GCP100105:					435	12.859	0	1.007	13.865	6.134	19.999	

Line Item 0100 - Develop SOW/Procurement Package

Breakdown of Cost Data:

BOE

Estimators Experience - Experience with similar Environmental Restoration project work scope. Experience Item Desc -

Item - Decision Document Units - Hrs Unit Cost - 435 hrs Unit Cost Adjustment factor - none Revised Unit Cost - none

Basis for adjustment - none

Resources

es	Cost Element Skill			Department	Curve	Quantity	Units	
	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	435.00	Hours

435 HRS Factors

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Cost Rick

2 Schadula Pick

Starts In FY

Line Item SYS - Contingency And Escalation

BOE

Resources	Cost Element	Skill	Department	Curve	Ouantity Units
	CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	607.52 Dollars
	Factors 607.52 Dollars				
	ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	399.36 Dollars

Factors 399.363 Dollars

ACTIVITY ID. 100	Description. 1 enorm water balance State			Cosi Risk	Z Schedule N	usk Z						
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	WATER BALANCE STUDY	1.00	each	EE	0	0	0	35.522	0	35.522	0	35.522
0200	K-H oversight of subcont.	1.00	each	EE	275	275	8.129	0	0	8.129	3.878	12.007
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.542	2.542	0	2.542
	Tot	al for Activi	ty 1GCP100)110:		275	8.129	35.522	2.542	46.193	3.878	50.070

Line Item 0100 - WATER BALANCE STUDY

BOE

Estimators Experience - Experience with similar Environmental Restoration project work scope.

Experience Item Desc - Based on previous experience with work scope at the Rocky Mountain Arsenal (RMA) and conversation with Lou Greer of Morrison Knudsen Corp at RMA.

Breakdown of Cost Data:

Item - Water Balance Study
Units - \$
Unit Cost - \$42000 Sub/c
Unit Cost Adjustment factor - none
Revised Unit Cost - none
Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

ces	Cost Element Skill		Department	Curve	<i>Ouantity</i>	Units	
	A5H	SUBCONTRACTED SRVS	E050 ENVIRONMENTAL ENGINEERS	K265S ER Programs	Linear	35.521.92	Dollars

Factors 42000 SUB/C DOLLARS

0.84576 [SYS 061400] .84576000 - System

BOE

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc -

Description: Perform Water Balance Study

Breakdown of Cost Data:

Item - Oversight Units - hrs Unit Cost - 275 hrs Unit Cost Adjustment factor - none Revised Unit Cost - none Basis for adjustment - none

Resources

ces		Cost Element		Skill		Department		Curve	Ouantity	Units	
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	l	inear	275.00	Hours	

Factors 275 Hours

Line Item SYS - Contingency And Escalation

Line Item 0200 - K-H oversight of subcont.

BOE

Resources	Cost Element		Skill	Department	Curve	Quantity	Units
	CON CONTINGENCY	0000	NONE	ZDEPT No Department	Linear	1.542.30	Dollars
	Factors 1542.3 Dollars						
	ESC ESCALATION	0000	NONE	ZDEPT No Department	Linear	999.42	Dollars
	Factors 999.417 Dollars						

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB

Activity Filter *

Starts In FY

Activity ID: 1GC	P100120 Description: Demonstrate RFCA Attachm	Cost Risk	2 Schedule R	risk 1								
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	RFCA ATTACHMENT 10	1.00	each	EE	0	0	0	71.890	0	71.890	0	71.890
0200	K-H oversight of subcontractor	1.00	each	EE	275	275	8.129	0	0	8.129	3.878	12.007
SYS	Contingency And Escalation	1.00) ea	EE	0	0	0	0	4.487	4.487	0	4.487
	Tot	Total for Activity 1GCP100120:							4.487	84.505	3.878	88.383

Line Item 0100 - RFCA ATTACHMENT 10

BOE

Estimators Experience - Experience with similar Environmental Restoration project work scope.

Experience Item Desc - Based on previous experience with work scope at the Rocky Mountain Arsenal (RMA) and conversation with Lou Greer of Morrison Knudsen Corp at RMA.

Breakdown of Cost Data:

Item - RFCA Att. 10 Demonstration Units - \$ Unit Cost - \$85000 Sub/c Unit Cost Adjustment factor - none Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	A5H S	UBCONTRACTED SRVS	E050	ENVIRONMENTAL ENGINEERS	K265S	ER Programs	Linear	71,889.60	Dollars

Factors 85000 SUB/C DOLLARS

0.84576 [SYS 061400] .84576000 - System

Line Item 0200 - K-H oversight of subcontractor

BOE

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc -

Breakdown of Cost Data:

Item - Oversight

Units - hrs

Unit Cost - 275 hrs Unit Cost Adjustment factor - none

Revised Unit Cost - none Basis for adjustment - none

Resources

ces		Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	275.00	Hours

Factors 275 Hours

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2.722.43	Dollars
	Factors	2722.43 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.764.15	Dollars

Factors 1764.15 Dollars

Activity ID: 1GC	P100130 Description: Readiness Assess/Environ F	teadiness Evaluation						Cost Risk 1 Schedule Risk				
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	READINESS ASSESSMENT	1.00	each	EE	400	400	21.380	25.373	0	46.753	6.029	52.782
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	7.537	7.537	0	7.537
	Tot	Total for Activity 1GCP100130:						25.373	7.537	54.289	6.029	60.319

Rocky Flats Closure Project Baseline Cost and Basis of Estimate Proiect WBS Filter Activity Filter

Baseline Devl 1GAB

Starts In FY *

1GCP100130 Line Item 0100 - READINESS ASSESSMENT

1GAB0A01

BOE

WBS No:

Activity ID:

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc - Past ER projects that initiated Readiness Reviews

Breakdown of Cost Data:

Item - Project Scope / Concept Design

Units - lot

Unit Cost - 400 hrs; \$30000 sub/c support

Unit Cost Adjustment factor - none

Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element Skill				Department	Curve	Ouantity Units	
	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K265S	ER Programs	Linear	200.00 Hours
	Factors	200 HRS						
	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K265S	ER Programs	Linear	200.00 Hours
	Factors	200 HRS						
Ĺ	A5H	SUBCONTRACTED SRVS	E050	ENVIRONMENTAL ENGINEERS	K265S	ER Programs	Linear	25.372.80 Dollars

Factors 30000 SUB/C DOLLARS

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Re	so	urc	es

ces		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2.468.67	Dollars
	Factors	2468.67 Dollars							
		ESCALATION	0000	NONE	ZDEPT	No Department	Linear	5.067.93	Dollars

Factors 5067.93 Dollars

Activity ID: 1GCP100140

Description: Field Document Preparation

Cost Risk 2 Schedule Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	DOCUMENTATION PREP	1.00	each	EE	300	300	8.868	33.830	0	42.698	2.501	45.199
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	6.503	6.503	0	6.503
	Tot	al for Activit	v 1GCP100	140:		300	8.868	33.830	6.503	49.202	2.501	51.702

Line Item 0100 - DOCUMENTATION PREP

BOE

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc -

Breakdown of Cost Data: KH Costs

Item - Prepare for field work by overseeing and assisting the Subcontractor to obtain approval on HASP/JHAs, training requirements and other field document requirements.

Units - hours

Unit Cost - 300 hrs

Unit Cost Adjustment factor - none

Revised Unit Cost - none

Basis for adjustment - none

Breakdown of Cost Data: Subcontractors Cost

Item - Document Preparation for Field Implementation

Units - Dollars

Unit Cost - 30K and 10K for the Subcontractor to develop project specific field documents such as the HASP/JHAs and training requirements before field work commences

Unit Cost Adjustment factor - none

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Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element	Skill	Department	Curve	Quantity Units
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	300.00 Hours
	Factors 300 HRS				
	A5H SUBCONTRACTED SRVS	E050 ENVIRONMENTAL ENGINEERS	K265S ER Programs	Linear	25.372.80 Dollars
	Factors 30000 SUB/C DOLLARS				

Tuctors 30000 GOD/O DOLLARO

 A5H
 SUBCONTRACTED SRVS
 P170
 OTHER ADMINISTRATIVE & PROFE
 K265S
 ER Programs
 Linear
 8.457.60 Dollars

Factors 10000 SUB/ CORP SUPPORT - SUB/C

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2.163.34	Dollars
	Factors	2163.34 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	4.339.86	Dollars

Factors 4339.86 Dollars

Activity ID: 1GCP100150

Description:	Prepare	Closeout	Report
--------------	---------	----------	--------

Cost Risk	3	Sche	dule	Risk	

k 3

3

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	CLOSEOUT REPORT PREP	1.00	each	EE	300	300	11,257	85,422	0	96,679	3,917	100,596
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	54,923	54,923	0	54,923
Total for Activity 1GCP100150:						300	11 257	85 422	54 923	151 602	3 917	155 519

Line Item 0100 - CLOSEOUT REPORT PREP

BOE

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc - Reference Estimate #EP1000-3C

Breakdown of Cost Data:

Item - Closure Report Units - lot

Unit Cost - 300 hrs; \$101000 Sub/c Unit Cost Adjustment factor - none

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element	Skill	Skill Department			Ouantity	Units	
	750	STRAIGHT TIME BASE	E050	E050 ENVIRONMENTAL ENGINEERS R		RMRS Salaried	Linear	200.00	Hours
_	Factors	200 HRS							
	750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K265S	ER Programs	Linear	100.00	Hours
_	Factors	100 HRS							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	85.421.76	Dollars

Factors 101000 sub/c support

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

ces		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	39,339.29	Dollars
	Factors	39339.3 Dollars							

WBS No: 1GAB0A01 Activity ID: 1GCP100150

Line Item

Rocky Flats Closure Project

BOE

Type

EE

FF

EE

Units

Proiect WBS Filter

0

8.129

Baseline Devl

1GAB **Baseline Cost and Basis of Estimate** Activity Filter

Labor Hours

Total

0

0

275

275

Starts In FY ZDEPT No Department 15.583.91 Dollars Linear

Factors 15583.9 Dollars

MODEL DIFFERENCES

K-H oversight of subcont

Contingency And Escalation

ESC ESCALATION

Activity ID: 1GCP100170 Description: Model Differences RMA & RFETS (SOIL PROP, PRECIP)

Description

Cost Risk

17.761

1 Schedule Risk Labor Cost Materials/ Sub | Contingency Total Prime Burden Cost Total Cost **Total** Cost & Escalation Cost 17.761 0 17.761 0 17.761 8.129 0 8.129 3.878 12.007

1.578

27.468

0

3.878

625.94 Dollars

1.578

31.346

1.578

1.578

Line Item 0100 - MODEL DIFFERENCES

BOE

0100

0200

SYS

Estimators Experience - Experience with similar Environmental Restoration project work scope.

Quantity

1.00 each

1.00 each

Total for Activity 1GCP100170:

1.00 ea

0000 NONE

Experience Item Desc - Based on previous experience with work scope at the Rocky Mountain Arsenal (RMA) and conversation with Lou Greer of Morrison Knudsen Corp at RMA.

Labor

Hours/Unit

275

Breakdown of Cost Data:

Item - Model Differences

Units - \$

Unit Cost - \$21000 Sub/c

Unit Cost Adjustment factor - none

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resource

rces		Cost Element		Skill		Department	Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	E050	ENVIRONMENTAL ENGINEERS	K265S	ER Programs	Linear	17,760.96	Dollars

21000 sub/c support Factors

0.84576 [SYS 061400] .84576000 - System

Line Item 0200 - K-H oversight of subcont

BOE

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc -

0000 NONE

Breakdown of Cost Data:

Item - Oversight Units - hrs

Unit Cost - 275 hrs

Unit Cost Adjustment factor - none

Revised Unit Cost - none Basis for adjustment - none

Resource

rces	Cost Element	Skill	Department	Curve	Ouantity	Units
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	275.00	Hours

275 Hours Factors

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear		
	Factors	952,200 Dollars							

ZDEPT No Department

ESC ESCALATION Factors 625.944 Dollars

Description: Perform Modeling with Unsat-H (Soils) Activity ID: 1GCP100190

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	PERFORM MODELING	1.00	each	EE	0	0	0	35.522	0	35.522	0	35.522
None		1.00		EE	275	275	8.129	0	0	8.129	3.328	11.457

Cost Risk

Linear

1 Schedule Risk

Baseline Devl Proiect **Rocky Flats Closure Project** WBS Filter 1GAB

275

8.129

35.522

4.758

Activity ID: 1GCP100190 **Baseline Cost and Basis of Estimate** Activity Filter 1.00 ea FF SYS Contingency And Escalation 4.758 4.758

Total for Activity 1GCP100190:

Line Item 0100 - PERFORM MODELING

1GAB0A01

BOE

WBS No:

Estimators Experience - Experience with similar Environmental Restoration project work scope. Experience Item Desc - Based on previous experience with work scope at the Rocky Mountain Arsenal (RMA) and conversation with Lou Greer of Morrison Knudsen Corp at RMA.

Breakdown of Cost Data:

Item - modeling Units - \$

Unit Cost - \$42000 Sub/c

Unit Cost Adjustment factor - none

Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element	Skill	Department	Curve	Ouantity	Units
	A5H	SUBCONTRACTED SRVS	S020 ENVIRONMENTAL SCIENTISTS	K265S ER Programs	Linear	35.521.92	Dollars

Factors 42000 subc support

Line Item None -

BOE

0.84576 [SYS 061400] .84576000 - System

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc -

Breakdown of Cost Data:

Item - Oversight

Units - hrs

Unit Cost - 275 hrs

275

Unit Cost Adjustment factor - none

Hours

Revised Unit Cost - none

Basis for adjustment - none

Resource

rces		Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	275.00	Hours

Line Item SYS - Contingency And Escalation

Factors

BOE

Resources

es	Cost Element		Skill		Department	Curve	Ouantity	Units
CC	N CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3.117.94	Dollars
Fact	ors 3117.94 Dollars							
ES	C ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.640.08	Dollars

1640.08 Dollars Factors

Activity ID: 1GE/	AER0101 Description: O&M System - (OU7 Landfil	Seep Colle	ection) FY00					Cost Risk	1 Schedule F	Pisk 1		
Line Item	Description	Quantity	Units	ВОЕ	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
01	Operation and Maintenance of Treatment System	1.00	each	НС	156	156	4.658	14.347	0	19.004	2.273	21.277
	To	al for Activi	ity 1GEAER	0101:		156	4.658	14.347	0	19.004	2.273	21.277

Line Item 01 - Operation and Maintenance of Treatment System Historical Data Source:

BOE

WAD 02, Wadlet 1.1.04.01.05 overall WBS Spending Variance Report rpt_002a dated 10/16/98, located in T893B cube 95.

Management and technical support for the operation, maintenance, and reporting

of the treatment System.

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Starts In FY

3.328

48.409

4.758

51.737

Proiect **Rocky Flats Closure Project** WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter

Item Desc: Operate and Maintain OU7 Treatment System Breakdown of Historical Data:

Item: Operate and Maintain OU7 Treatment System

Units: 1 Year

1GAB0A01

1GEAER0101

Unit Cost: \$22,650 Dollars Unit Cost Adjustment factor:

Revised Unit Cost: Basis for adjustment:

Resources

WBS No:

Activity ID:

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	26.96	Hours
یے	Factors	40 Hours		0.67401 January 2000 Earned Value	Factor				
L	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	64.70	Hours
d	Factors	96 hours		0.67401 January 2000 Earned Value	Factor			_	,
L	750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	R100S	RMRS Salaried	Linear	16.18	Hours
į.	Factors	24 hours		0.67401 January 2000 Earned Value	Factor		1		,
L	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	16.18	Hours
į.	Factors	24 hours		0.67401 January 2000 Earned Value	Factor		1		,
L	750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	32.35	Hours
į.	Factors	48 hours		0.67401 January 2000 Earned Value	Factor		1		,
L	A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried	Linear	1.094.59	Dollars
į.	Factors	1624 dollars		0.67401 January 2000 Earned Value	Factor		1		,
L	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	5.392.07	Dollars
į.	Factors	8000 dollars		0.67401 January 2000 Earned Value	Factor		T		
L	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	4.948.88	Dollars
į.	Factors	7342.45 dollars		0.67401 January 2000 Earned Value	Factor		T		
L	A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K265S	ER Programs	Three Step	1.500.83	Dollars
į.	Factors	2066.66 DOLLARS		0.72621 January 2000 Earned Value	Factor		T		
L	A5H	SUBCONTRACTED SRVS	P170	OTHER ADMINISTRATIVE & PROFE	K265S	ER Programs	Linear	1.034.09	Dollars
į.	Factors	1534.24 DOLLARS		0.67401 January 2000 Earned Value	Factor		T		
L	A5H	SUBCONTRACTED SRVS	S020	ENVIRONMENTAL SCIENTISTS	K265S	ER Programs	Linear	376.10	Dollars
	Factors	EES DOLLARS		0.67404 January 2000 Farned Value	Factor				

0.67401 January 2000 Earned Value Factor DOLLARS Factors 558 Activity ID: 1GEAER0105 Description: O&M System - (OU7 Landfill Seep Collection) FY01 Cost Rich 1 Schedule Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
01	Operation and Maintenance of Treatment System	1.00	each	HC	208	208	6.117	18.694	0	24.812	2.918	27.730
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.470	1.470	0	1.470
	Tot	al for Activi	ty 1GEAER	0105:		208	6.117	18.694	1.470	26.282	2.918	29.200

Line Item 01 - Operation and Maintenance of Treatment System

BOE

WAD 02,Wadlet 1.1.04.01.05 overall WBS Spending Variance Report rpt_002a dated 10/16/98, located in T893B cube 95.

Management and technical support for the operation, maintenance, and reporting

of the treatment System.

Historical Data Source:

Item Desc: Operate and Maintain OU7 Treatment System

Breakdown of Historical Data:

Item: Operate and Maintain OU7 Treatment System

Units: 1 Year

Unit Cost: \$58,000 Dollars

Unit Cost Adjustment factor: -\$30,000

Revised Unit Cost: \$28,000 Dollars

Basis for adjustment: \$30K reduction in funding due to efficiencies of the new aeration system. Operation/maintenance and waste packaging costs have been reduced by using the passive aeration system for this activity. Sampling Costs are reduced in the year 2000 when monthly sampling has been proposed to be reduced to semi-annual sampling.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

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Baseline Devl

Starts In FY

1GAB

WBS No: 1GAB0A01 Baseline Devl Proiect **Rocky Flats Closure Project** 1GAB Activity ID: 1GEAER0105 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY Cost Element Curve Units Resources Department E050 ENVIRONMENTAL ENGINEERS R100S RMRS Salaried 750 STRAIGHT TIME BASE Linear 40.00 Hours 40 Hours Factors E050 ENVIRONMENTAL ENGINEERS R100S RMRS Salaried 96.00 Hours 750 STRAIGHT TIME BASE Linear 96 hours Factors 750 STRAIGHT TIME BASE E120 SAFETY ENGINEERS R100S RMRS Salaried Linear 24.00 Hours Factors 24 hours 750 STRAIGHT TIME BASE P170 OTHER ADMINISTRATIVE & PROFE R100S RMRS Salaried 48.00 Hours Linear 48 hours Factors 0000 NONE R100S RMRS Salaried 1.624.00 Dollars A5C SUPPLIES Linear 1624 dollars 0000 NONE K265S ER Programs 6.209.95 Dollars A5H SUBCONTRACTED SRVS Linear Factors 7342.45 dollars 0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs 6.766.08 Dollars Linear 8000 dollars Factors 0.84576 [SYS 061400] .84576000 - System E130 OTHER ENGINEERS A5H SUBCONTRACTED SRVS K265S ER Programs 571.56 Dollars Linear 675.8 Prime Dollars Factors 0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS P070 COST ESTIMATORS PLANNERS AN K265S ER Programs Linear 1.730.42 Dollars 2046 DOLLARS Factors 0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS P170 OTHER ADMINISTRATIVE & PROFE | K265S | ER Programs 1.314.51 Dollars Linear 1554.24 DOLLARS Factors 0.84576 [SYS 061400] .84576000 - System SUBCONTRACTED SRVS S020 ENVIRONMENTAL SCIENTISTS K265S FR Programs 477 85 Dollars Linear 565 **DOLLARS** Factors 0.84576 [SYS 061400] .84576000 - System Line Item SYS - Contingency And Escalation BOE Units Resources Cost Element Skill **Ouantity** Department Curve CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 887.01 Dollars Factors 887.013 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department 583.09 Dollars Linear 583.092 Dollars Factors Activity ID: 1GEAER0110 Description: O&M System - (OU7 Landfill Seep Collection) FY02 Cost Risk 1 Schedule Risk BOELabor Cost Materials/ Sub Total Prime Line Item Description Quantity Units Labor Labor Hours Contingency Burden Cost Total Cost & Escalation TypeHours/Unit **Total Total** Cost Cost 18.702 01 Operation and Maintenance of Treatment System 1.00 each HC 208 208 6.117 O 24.819 2.159 26.979 SYS Contingency And Escalation 1.00 ea 0 0 4.032 4.032 0 4.032 Total for Activity 1GEAER0110: 208 6.117 18.702 4.032 28.852 2.159 31.011 Line Item 01 - Operation and Maintenance of Treatment System Historical Data Source: BOE WAD 02, Wadlet 1.1.04.01.05 overall WBS Spending Variance Report rpt_002a dated 10/16/98, located in T893B cube 95.

Management and technical support for the operation, maintenance, and reporting

Item Desc: Operate and Maintain OU7 Treatment System

Item: Operate and Maintain OU7 Treatment System

of the treatment System.

Units: 1 Year

Breakdown of Historical Data:

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Rocky Flats Closure Project
Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

Unit Cost: \$58,000 Dollars

1GAB0A01

1GEAER0110

Unit Cost Adjustment factor: -\$30,000 Revised Unit Cost: \$28,000 Dollars

Basis for adjustment: \$30K reduction in funding due to efficiencies of the new aeration system. Operation/maintenance and waste packaging costs have been reduced by using the passive aeration system for this activity. Sampling Costs are reduced in the year 2000 when monthly sampling has been proposed to be reduced to semi-annual sampling.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

WBS No:

Activity ID:

s	Cost Element	Skill	Department	Curve	Ouantity Units
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	96.00 Hours
4	Factors 96 hours				
L	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	40.00 Hours
ŕ	Factors 40 Hours				
L	750 STRAIGHT TIME BASE	E120 SAFETY ENGINEERS	R100S RMRS Salaried	Linear	24.00 Hours
ŕ	Factors 24 hours				
L	750 STRAIGHT TIME BASE	P170 OTHER ADMINISTRATIVE & PROFE	R100S RMRS Salaried	Linear	48.00 Hours
ŕ	Factors 48 hours	T			
L	A5C SUPPLIES	0000 NONE	R100S RMRS Salaried	Linear	1.624.00 Dollars
ŕ	Factors 1624 dollars				
L	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	6.766.08 Dollars
-	Factors 8000 dollars				
Г	1-11 OUD CONTRACTED CDVC	assa luous	V0050 50 0	0.84576 [SYS 061400	
L	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	6.209.95 Dollars
	Factors 7342.45 dollars			0.04570 107/0.004400	1.04570000 0
Г	A5H SUBCONTRACTED SRVS	E130 OTHER ENGINEERS	K265S ER Programs	0.84576 [SYS 061400	571.56 Dollars
L		E 130 OTHER ENGINEERS	NZ000 ER PIOUIAITIS	Linear	57 I.SOIDOIIAIS
-	Factors 675.8 Dollars			0.84576 [SYS 061400	1 9/576000 Systom
Γ	A5H SUBCONTRACTED SRVS	P070 COST ESTIMATORS PLANNERS AN	K265S ER Programs	Linear	1.748.19 Dollars
L	Factors 2067 DOLLARS	1070 ICOST ESTIMATORS LANNERS AN	N2035 EN FIOGRAMS	Lilleal	1.740.13[D0]Ia13
	Tacions 2001 DOLLI IIIO			0.84576 [SYS 061400	1 84576000 - System
	A5H SUBCONTRACTED SRVS	P170 OTHER ADMINISTRATIVE & PROFE	K265S ER Programs	Linear	1.297.60 Dollars
_	Factors 1534.24 DOLLARS				
				0.84576 [SYS 061400	1.84576000 - Svstem
	A5H SUBCONTRACTED SRVS	S020 ENVIRONMENTAL SCIENTISTS	K265S ER Programs	Linear	484.62 Dollars
	Factors 573 DOLLARS				

0.84576 [SYS 061400] .84576000 - System

1 Schedule Risk

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2.771.57	Dollars
_	Factors	2771.57 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,260.75	Dollars

Factors 1260.75 Dollars

otion: O&M System - (OU7 Landfill Seep Collection) FY03	0115 Description:	Activity ID: 1GEAER0115
otion: O&M System - (OU7 Landfill Seep Collection) F	0115 Description:	Activity ID: 1GEAER0115

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
01	Operation and Maintenance of Treatment System	1.00	each	НС	208	208	6,117	18,724	0	24,842	1,944	26,785
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	5,751	5,751	0	5,751
	Tot		208	6.117	18.724	5.751	30.593	1.944	32.536			

Line Item 01 - Operation and Maintenance of Treatment System

BOE Historical Data Source:

WAD 02,Wadlet 1.1.04.01.05 overall WBS Spending Variance Report rpt_002a dated 10/16/98, located in T893B cube 95.

Cost Risk

WBS No: 1GAB0A01 1GEAER0115 Activity ID:

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Starts In FY

Management and technical support for the operation, maintenance, and reporting of the treatment System.

Item Desc: Operate and Maintain OU7 Treatment System

Breakdown of Historical Data:

Item: Operate and Maintain OU7 Treatment System

Units: 1 Year

Unit Cost: \$58,000 Dollars

Unit Cost Adjustment factor: -\$30,000 Revised Unit Cost: \$28,000 Dollars

Basis for adjustment: \$30K reduction in funding due to efficiencies of the new aeration system. Operation/maintenance and waste packaging costs have been reduced by using the passive aeration system for this activity. Sampling Costs are reduced in the year 2000 when monthly sampling has been proposed to be

reduced to semi-annual sampling.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00 Hours
d	Factors	40 Hours						
L	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	96.00 Hours
ŕ	Factors	96 hours		1				
L	750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	R100S	RMRS Salaried	Linear	24.00 Hours
ď	Factors	24 hours		1	I			
L	750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	48.00 Hours
ď	Factors	48 hours		1				
L	A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried	Linear	1.624.00 Dollars
ď	Factors	1624 dollars		1		I		
L	_A5H_	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	6.766.08 Dollars
-	Factors	8000 dollars					0.04570 10\/0.00440	01.04570000 0
Γ	٨٤١١	SUBCONTRACTED SRVS	0000	NONE	KOCEC	ER Programs	0.84576 [SYS 06140	6.209.95 Dollars
L	A5H Factors	7342.45 dollars	0000	INONE	N200S	ER PIOGIAINS	Linear	6.209.95ID0IIais
-	raciors	7342.45 dollars					0.84576 [SYS 06140	01 84576000 System
Γ	A5H	SUBCONTRACTED SRVS	F130	OTHER ENGINEERS	K265S	ER Programs	Linear	571.56 Dollars
	Factors	675.8 Prime Dollars	_ L100	TO THE CHOINE ENG	112000	IEICI IOGIGIIIS	Linear	37 1.30IDONAI3
	i delete	Orolo Timo Bonaro					0.84576 [SYS 06140	01 84576000 - System
	A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K265S	ER Programs	Linear	1.751.06 Dollars
_	Factors	2070.4 DOLLARS						
_							0.84576 [SYS 06140	01 .84576000 - Svstem
	A5H	SUBCONTRACTED SRVS	P170	OTHER ADMINISTRATIVE & PROFE	K265S	ER Programs	Linear	1.297.60 Dollars
	Factors	1534.24 DOLLARS						
-				1	ı		0.84576 [SYS 06140	01 .84576000 - Svstem
L	A5H	SUBCONTRACTED SRVS	S020	ENVIRONMENTAL SCIENTISTS	K265S	ER Programs	Linear	504.07 Dollars
	Factors	596 DOLLARS						

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3.470.31	Dollars
-	Factors	3470.31 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	2.280.62	Dollars

2280.62 Dollars Factors

ACTIVITY ID. TGE	Description: OO-7 Landilli Cap Long Ten	II IVIAIIII. & I	vioriitoririq					Cost Risk	1 Scheaule K	lisk I			
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost	ı

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Rockv Flats Closure Project Baseline Cost and Basis of Estimate Project WBS Filter 1GAB **

						Acti	vuy r uier		siar	us in r i	
			Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
LFEAER3110	Post Closure Monitoring	1.00 each	EE	1,200	1,200	35.472	21.144	0	56.616	12.344	68.960
SYS	Contingency And Escalation	1.00 ea	EE	0	0	0	0	48.025	48.025	0	48.025
		Total for Activity 1GEAF	84000.		1 200	35 472	21 144	48 025	104 641	12 344	116 986

Line Item LFEAER3110 - Post Closure Monitoring

1GAB0A01

1GEAER4000

BOE

WBS No:

Activity ID:

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc - Operations and Post Closure activities for OU-4

Breakdown of Cost Data: Item - Monitoring

Units -lot

Unit Cost - 1200 hrs; \$25,000 sub/c Unit Cost Adjustment factor - none

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

ces		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	1,200.00	Hours
	Factors	1200 Hours							
		SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	21.144.00	Dollars

Factors 25000 Dollars

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	34.245.64	Dollars
	Factors	34245.6 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	13.779.80	Dollars

Factors 13779.8 Dollars

Activity ID: 1GEAER4005 Description: OU-7 Landfill Cap Long Term Maint. & Monitoring

Cost Risk	1	Schedule Risk	

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
LFEAER3110	Post Closure Monitoring	1.00	each	EE	1.200	1.200	35.472	21.144	0	56.616	12.344	68.960
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	58.537	58.537	0	58.537
	Tot	1.200	35.472	21.144	58.537	115.153	12.344	127.497				

Line Item LFEAER3110 - Post Closure Monitoring

BOE

Estimators Experience - Experience with similar Environmental Restoration project work scope Experience Item Desc - Operations and Post Closure activities for OU-4

Breakdown of Cost Data: Item - Monitoring

Units -lot

Unit Cost - 1200 hrs; \$25,000 sub/c Unit Cost Adjustment factor - none

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element	Skill			Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	1.200.00	Hours
	Factors	1200 Hours							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	21.144.00	Dollars

Factors 25000 Dollars

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Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY

Line Item SYS - Contingency And Escalation

1GEAER4005

1GAB0A01

BOE

WBS No:

Activity ID:

Resources	Cost Element	Skill	Department	Curve	Ouantity Units
	CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	43.155.44 Dollars
	Factors 43155.4 Dollars				
	ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	15.381.59 Dollars

Factors 15381.6 Dollars

WBS No: 1GABO	DB01 Title: Buffer Zone Groundwater	Projects									
Activity ID: 1GC	K500050 Description: Prepare Decision Document	IA Plume					Cost Risk	4 Schedule R	Risk 4		
Line Item	Description	Quantity	Units BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
			Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	PAM	1.00 e	ach EE	740	740	23.428	0	0	23,428	8.106	31.534
SYS	Contingency And Escalation	1.00 e	a EE	0	0	0	0	9.016	9.016	0	9.016
	Tot	al for Activity	1GCK500050:		740	23.428	0	9.016	32.444	8.106	40.550

Line Item 0100 - PAM

BOE

Estimator's Experience based generally on historical data for Ryan's Pit

Item Desc

Preparation of PAM in support of source removal of previously characterized UBC.

Breakdown of Cost Data:

Item: Preparation of PAM for Ryan's Pit source removal action modified to include GIS support.

Units: hours

Unit Cost: 40 hours GIS support, 72 hours project manager technical support, 628 hours for technical staff to write document.

Unit Cost Adjustment Factor: None

Revised Unit Hours: None

Basis for adjustment. None

Resources

es	Cost Element		. Skill		Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	628.00 Hours
Factors	628 hrs						
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K253S	Remediation, Industrial & Site Serv	Linear	72.00 Hours
Factors	72 hrs						
750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	40.00 Hours
Factors	40 hrs						

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element	Skill	Department	Curve	Ouantity Units
	CON	CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	6.598.00 Dollars
	Factors	6598.00 Dollars				
		ESCALATION	0000 NONE	ZDEPT No Department	Linear	2.418.21 Dollars

Factors 2418.21 Dollars

Activity ID: 1G0	Activity ID: 1GCK500100 Description: Develop Project Plans for IA Plume Cost Risk 4 Schedule Risk 2											
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Develop Plans	1.00	ea	HC	302	302	8.867	7.445	0	16.313	2.501	18.813
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	2.750	2.750	0	2.750
	To	al for Activi	tv 1GCK500	100:		302	8.867	7.445	2.750	19.063	2.501	21.564

Line Item 10 - Develop Plans

BOE

These costs are based on the historical costs for the Mound Site Plume, a similar project.

Historical Data Source - P&I Reporting System Report PCS_002

Item Desc - Plans

Breakdown of Historical Data:

Rocky Flats Closure Project Baseline Cost and Basis of Estimate Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Starts In FY *

Item - Plans Units - lot Unit Cost - 302 hours, \$8,803 Dollars Unit Cost Adjustment factor -Revised Unit Cost - N/A

Basis for adjustment - N/A

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

WBS No:

Activity ID:

es	Cost Element		Skill		Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	160.00 Hours
Factor	s 160 hours						
750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	40.00 Hours
Factor	s 40 Hours/ea						-
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K253S	Remediation. Industrial & Site Serv	Linear	20.00 Hours
Factor	s 20 Hours/ea			1			
750	STRAIGHT TIME BASE	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	42.00 Hours
Factor	s 42 Hours/ea			1			
750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	20.00 Hours
Factor	s 20 h	,		,		T	
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	20.00 Hours
Factor	s 20 h			1			
A5H	SUBCONTRACTED SRVS	P050	COMPLIANCE INSPECTORS	K253S	Remediation. Industrial & Site Serv	Linear	7.445.23 Dollars
T	0000						

Factors 8803 subc support

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

1GAB0B01

1GCK500100

BOE

Resources

s		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	944.08	Dollars
i	Factors	944.081 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.806.38	Dollars

Factors 1806.38 Dollars

Activity ID: 1GCK500105 Description: Perform Title I,II,III Design for IA Plume Cost Risk 2 Schedule Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
30	Perform Title I.II.III Design	1.00	Is	EE	480	480	13.442	141.742	0	155.184	3.791	158.974
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	22.873	22.873	0	22.873
	Tot	al for Activi	ty 1GCK500	105:		480	13.442	141.742	22.873	178.057	3.791	181.847

Line Item 30 - Perform Title I,II,III Design

BOE

Item Desc - Title I, II, III Design Breakdown of Historical Data:

Item - Title I,II,III Design -based on the design cost for the East Trenches Plume Project

Unit Cost - 167,000 dollars based on the OHM/Parson Subcontract 3 people 160 hours each for review, comment, site engineering interface to meet Site requirements, \$500 for copying and other supplies.

Unit Cost Adjustment factor -Revised Unit Cost - N/A Basis for adjustment - N/A

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resource

ces	Cost Element	Skill	Department	Curve	Quantity Units	
	750 STRAIGHT TIME BASE	E020 CIVIL ENGINEERS	K253S Remediation, Industrial & Site Serv	Linear	160.00 Hours	
	Factors 160 hours					
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	320.00 Hours	
	Factors 320 hours					

WBS No: 1GAB0B01 Baseline Devl Proiect **Rocky Flats Closure Project** 1GCK500105 1GAB Activity ID: WBS Filter **Baseline Cost and Basis of Estimate** Starts In FY K253S Remediation. Industrial & Site Serv A5C SUPPLIES 0000 NONE 500.00 Dollars Linear 500 Dollars/Is A5H SUBCONTRACTED SRVS P050 COMPLIANCE INSPECTORS K253S Remediation, Industrial & Site Serv 141.241.90 Dollars Linear 167000 subc support 0.84576 [SYS 061400] .84576000 - System Line Item SYS - Contingency And Escalation BOE Resources Cost Element Skill Curve Units Department Quantity 0000 NONE ZDEPT No Department CON CONTINGENCY Linear 7.608.89 Dollars Factors 7608.89 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department 15.264.10 Dollars Linear 15264.1 Dollars Factors Activity ID: 1GCK500110 Description: Readiness Assessment for IA Plume Cost Risk 2 Schedule Risk Labor Total Prime BOELabor Hours Labor Cost Materials/ Sub Contingency Total Cost Line Item Description Quantity Units Burden Cost Type Hours/Unit **Total** Cost & Escalation Cost 20 Readiness Assessment 1.00 ls EE 300 300 8.868 5.075 0 13.943 2.501 16.443 EE SYS Contingency And Escalation 1.00 ea 0 0 2.366 2.366 0 2.366 Total for Activity 1GCK500110: 300 8.868 5.075 2.366 16.308 2.501 18.809 Line Item 20 - Readiness Assessment Item Desc - Project Preparation BOE Breakdown of Historical Data: Item - Project Preparation Units - lot Unit Cost - 300 hours, \$6,000 Dollars Unit Cost Adjustment factor -Revised Unit Cost - N/A Basis for adjustment - N/A This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions. Resources

ces		C	Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGH	T TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	300.00	Hours
	Factors	300	Hours/ls							
	A5H	SUBCONT	TRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	3.383.04	Dollars
	Factors	4000	dollars							
								0.04E76 [CVC.061400	01 04576000 0	2 votom

0.84576 [SYS 061400] .84576000 - System 0000 NONE K265S ER Programs A5H SUBCONTRACTED SRVS 1.691.52 Dollars

Factors 2000 Subcontractor's Cost for Readiness

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE Resources

s	Cost Element		Skill			Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	787.02	Dollars
F	actors	787.019 Dollars							
	FSC.	ESCALATION	0000	NONE	7DEPT	No Department	Linear	1 578 83	Dollars

1578.83 Dollars

Activity ID: 1G0	Description: Field Preparation for IA Plum	ne						Cost Risk	2 Schedule R	isk 2		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
IBCKER0820	Field Preparation	1.00	ls	EE	80	80	2.520	36.960	0	39.480	711	40.190
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	5,783	5,783	0	5,783
Total for Activity 1GCK500200:						80	2,520	36,960	5,783	45,262	711	45,973

Line Item	IBCKER0820 -	· Field Preparation	n

BOE			
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 WBS No:
 1GAB0B01
 Rockv Flats Closure Project
 Project
 Baseline Devi

 Activity ID:
 1GCK500200
 Baseline Cost and Basis of Estimate
 WBS Filter Activity Filter
 1GAB

This task includes Subcontractor Training and mobilization.

Estimated length of Plume collectin and treatment System will be similar to the East Trenches Plume with a similar length of 1,150' * 15' = 17,250 sf

East Trenches Plume Unburdened Cost for Subcontracted costs (from IT proposal and actual costs)

East Trenches Plume

Engineering Design \$ 167,000
Project Documentation/ HASP/FIP \$ 25,000
0&M Manual/Acceptance Testing \$ 15,600
Training and Mobilization \$ 43,700
Construction of collection and treatment system \$1,206,000
Demobilization \$ 20,700

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element	Skill	Department	Curve	Ouantity Units
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	40.00 Hours
F	Factors 40 Hours/Is				
	750 STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear	20.00 Hours
F	Factors 20 Hours/Is				
	750 STRAIGHT TIME BASE	P090 INDUSTRIAL HYGIENISTS	R100S RMRS Salaried	Linear	20.00 Hours
F	Factors 20 Hours/Is				
	A5H SUBCONTRACTED SRVS	0000 NONE	K253S Remediation, Industrial & Site Serv	Linear	36.959.71 Dollars

Factors 43700 Dollars

0.84576 [SYS 061400] .84576000 - System

Starts In FY

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	1.923.61	Dollars
	Factors	1923.61 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3.858.93	Dollars

Factors 3858.93 Dollars

Activity ID: 1GCK500205 Description: Field Oversight & Support for IA Plume

Cost Risk 2 Schedule Risk

Line Item Description **Ouantity** Units BOELabor Labor Hours Labor Cost Materials/ Sub Contingency Total Prime Burden Cost Total Cost Type Hours/Unit Total Total Cost & Escalation Cost HC IBCKER0835 Field Oversight & Support 800 800 24.333 2.038 26.371 7.352 33.723 1.00 ls Contingency And Escalation SYS 1.00 ea 0 9.167 9.167 0 9.167 800 24.333 2.038 35.538 7.352 Total for Activity 1GCK500205: 9.167 42.890

Line Item IBCKER0835 - Field Oversight & Support

BOE

Item Desc - Field Oversight & Support Breakdown of Historical Data:

Item - Field Oversight & Support - Based on requirement for East Trenches Plume

Units - lot

Unit Cost - 4 people 4 months = 640 hours, \$2,038 Dollars for supples

H&S oversight = 160 hours for full time support

Unit Cost Adjustment factor - N/A

Revised Unit Cost - N/A

Basis for adjustment - N/A

Resources

ces	Cost Element		Skill			Department	Curve	Ouantity Units	
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	640.00 Hours	
	Factors	640 Hours/Is							
	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	160.00 Hours	
	Factors	160 Hours/Is							
	A5C	SUPPLIES	P050	COMPLIANCE INSPECTORS	K253S	Remediation. Industrial & Site Serv	Linear	2.038.16 Dollars	

Factors 2038.16 subc support

WBS No: 1GAB0B01 *Activity ID:* 1GCK500205

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY

Line Item SYS - Contingency And Escalation

BOE

Resources	Cost Element	Skill	Department	Curve	Ouantity Units
	CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	5.303.38 Dollars
_	Factors 5303.38 Dollars				
	ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	3.863.96 Dollars

Factors 3863.96 Dollars

Activity ID: 1GC	Description: Construct Reactive Barrier v	valls for IA	Plume					Cost Risk	4 Schedule F	isk 4		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
IBCKER0825	Construct Reactive Barrier Walls	2.00	ea	HC	0	0	0	2.074.988	0	2.074.988	0	2.074.988
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	633.149	633.149	0	633.149
Total for Activity 1GCK500210:							0	2.074.988	633.149	2.708.137	0	2.708.137

Line Item IBCKER0825 - Construct Reactive Barrier Walls

BOE

Estimated length of Plume collectin and treatment System will be similar to the East Trenches Plume with a similar length of 1,150' * 15' = 17,250 sf

East Trenches Plume Unburdened Cost for Subcontracted costs (from IT proposal and actual costs)
East Trenches Plume

East Trenches Plume

Construction of collection and treatment system \$1,206,000
Demobilization \$ 20,700
Total \$1,226,700

Roll-offs will be used for the sanitary waste generated during construction such as packaging for the construction materials, pallets, etc. 5 drums of other waste are assumed based on the East Trenches Plume construction. The drummed material is expected to be oil soaked dirt from equipment leaks.

Line item was adjusted by a factor of 2
Revised Unit Cost - (line item level only)

Basis for adjustment - The system will be twice as long as the existing East Trenches Plume system

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

rces	Cost Element		Skill			Department	Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	1,037,494.00	Dollars

Factors 1226700 Dollars

0.84576 [SYS 061400] .84576000 - System

2

Line Item SYS - Contingency And Escalation BOE

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Resources

es	Cost Element	Skill	Department	Curve	Ouantity	Units
CC	N CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	385.389.90	Dollars
Facto	rs 385390 Dollars					

ESC ESCALATION 0000 NONE ZDEPT No Department Linear 247.759.20 Dollars

Factors 247759 Dollars

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Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
IBCKER0855	Perform Project Management	2.00	ea	HC	800	1.600	72.709	27.889	0	100.597	21.243	121.841
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	25.896	25.896	0	25.896
	Tot	Total for Activity 1GCK500				1.600	72.709	27.889	25.896	126.494	21.243	147.737

Line Item IBCKER0855 - Perform Project Management

BOE

Item Desc - Project Management Breakdown of Historical Data: Item - Project Management

Units - lot

Unit Cost - 800 hours, \$16,487 Dollars

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Cost Risk

2 Schedule Risk

WBS No: 1GAB0B01 Activity ID: 1GCK500215

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

Unit Cost Adjustment factor - Line item was adjusted by a factor of 2
Revised Unit Cost - 1,600 \$32,974 (line item level only)
Basis for adjustment - The system will be twice as long as the existing East Trenches Plume system

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element		Skill		Department	Curve	Ouantity	Units
750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	120.00	Hours
Factors	120 h							
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K253S	Remediation. Industrial & Site Serv	Linear	600.00	Hours
Factors	600 Hours							
750	STRAIGHT TIME BASE	P150	TRAINERS	R100S	RMRS Salaried	Linear	40.00	Hours
Factors	40 h							
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	40.00	Hours
Factors	40 hours							
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	5.032.94	Dollars
Factors	5950.79 subc support							
		•				0.84576 [SYS 061400	01 .84576000 - \$	Svstem
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	8.911.38	Dollars

Factors 10536.5 subc support - p&i

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Res			_
762	ou	LCE	э

es Cost Element Skill			Department	Curve	Quantity	Units			
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	13.339.02	Dollars
ي .	Factors	13339.0 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	12.557.28	Dollars

Factors 12557.3 Dollars

Activity ID: 1GCK500300	Description:	Prepare Closure Report for IA Plume
-------------------------	--------------	-------------------------------------

Cost Risk	2	Schedule Risk	3
-----------	---	---------------	---

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
100	Prepare Closure Report	1.00	ea	НС	160	160	4.730	0	0	4.730	1.646	6.376
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3.445	3.445	0	3.445
•	Tot	Total for Activity 1GCK500300:						0	3,445	8.174	1.646	9.820

Line Item 100 - Prepare Closure Report

BOE

Item Desc - Project Closure Report
Breakdown of Historical Data:
Item - Project Closure Report
Units - lot
Unit Cost - 160 hours
Unit Cost Adjustment factor - N/A
Revised Unit Cost - N/A
Basis for adjustment - N/A

Resources

es	Cost Element Skill			Department	Curve	Quantity	Units	ı		
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	160.00	Hours	ı

Factors 160 Hours/ea

Line Item SYS - Contingency And Escalation

BOE

Resource

ces		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2.456.92	Dollars
_	Factors	2456.93 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	987.66	Dollars

Factors 987.664 Dollars

Activity ID: 1GCK500305 Description: IA Plume Operation and Startup Cost Risk 4 Schedule Risk 2

WBS No:1GAB0B01Rocky Flats Closure ProjectProjectBaseline DevlActivity ID:1GCK500305Baseline Cost and Basis of EstimateWBS Filter1GAB

							Activity Filter ^			Sta		
Line Item	Description	Quantity	Quantity Units		Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
200	IA Plume Operations and Startup	1.00	each	EE	720	720	22.270	1.118	0	23.388	7.750	31.138
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	17.178	17.178	0	17.178
	Tot	Total for Activity 1GCK500305:					22.270	1.118	17.178	40.566	7.750	48.315

Line Item 200 - IA Plume Operations and Startup

BOE

Item Desc - Operations & Startup

Breakdown of Historical Data: Hours to transfer operations, begin O&M, procure maintenance equipment as required.

Item - Operations & Startup

Units - lot

Unit Cost - 720 hours, \$1,118 Dollars Unit Cost Adjustment factor - N/A Revised Unit Cost - N/A Basis for adjustment - N/A

Resources

es		Cost Element	Skill			Department	Curve	Quantity U	Inits
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	188.00 Hou	urs
1	Factors	188 hours							
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	168.01 Hou	ırs
1	Factors	168.006 hours							
	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	364.00 Hou	ırs
1	Factors	364 hours							
L	A5C	SUPPLIES	0000	NONE	K265S	ER Programs	Linear	500.00 Dolla	lars
1	Factors	500 dollars							
L	A5C	SUPPLIES	0000	NONE	K265S	ER Programs	Linear	618.00 Dolla	lars

Factors 618 d

Line Item SYS - Contingency And Escalation

BOE

Resources

es	es <u>Cost Element</u> Skill			Department	Curve	Quantity	Units	
	CON	CONTINGENCY	0000 NONE	ZDEPT No Department		Linear	12.353.99	Dollars
	Factors	12354 Dollars						
		ESCALATION	0000 NONE	ZDEPT	No Department	Linear	4.823.71	Dollars

Factors 4823.71 Dollars

WBS No: 1GAB	0B03 Title: Plume Monitoring & Mainte	enance										
Activity ID: 1GC	KER0711 Description: Plume Maintenance FY00	00						Cost Risk 4 Schedule Risk 1				
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		'
10	Plume Verification Monitoring	3.00 €	each	EE	27	81	2.061	45.293	0	47.354	1.006	48.359
20	Monthly Inspection	3.00 €	each	EE	0	0	0	25.073	0	25.073	0	25.073
30	Quarterly Report	3.00 €	each	EE	27	81	2.061	0	0	2.061	1.006	3.067
40	Annual Review of System Performance	3.00 €	each	EE	67	202	5.152	0	0	5.152	2.514	7.666
50	Project Management	3.00 €	each	EE	103	309	8.273	0	0	8.273	4.037	12.311
	Tot	al for Activity	y 1GCKER	0711:	i	673	17.547	70.366	0	87.913	8.563	96.476

Line Item 10 - Plume Verification Monitoring

BOE

Estimator's Experience/Vendor Quote based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility and a conversation with Will Goldberg, MSE, (406) 494-7330, vendor who installed Mound Treatment System.

Item Desc:

Sampling requirements were derived from conversations with Leslie Dunstan RMRS SW Sampling coordinator, and Steve Singer, RMRS GW Monitoring Manager

Breakdown of Cost Data:

Item: Analytical Services

Units: Dollars
Unit Cost: 10k

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

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Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Proiect | WBS Filter | Activity Filter | 1

Baseline Devl 1GAB

Starts In FY *

Breakdown of Cost Data:
 Item: Monitoring Services
 Units: Dollars
 Unit Cost: 10k
 Unit Cost Adjustment Factor: 3.0
 Revised Unit Hours: n/a

Basis for adjustment. The adjustment factor of 3.0 is to apply the single system cost to 3 systems.

Resources

WBS No:

Activity ID:

es	Cost Element Skill					Department	Curve	Quantity	Units
Į	750	STRAIGHT TIME BASE	P050	COMPLIANCE INSPECTORS	R100S	RMRS Salaried	Linear	26.96	Hours
c	Factors	40 hrs		0.674 January 2000 Earned Value	Factor		-		
Į	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	1.617.60	Dollars
_	Factors	2400 dollars				0.674 January 2000 Earned Value Factor			
	A5H	SUBCONTRACTED SRVS	0000	NONE	K267S	Analytical Laboratory Services	Linear	13,480.00	Dollars
	Factors	20000 dollars				0.674 January 2000 Earned Value Factor			

Line Item 20 - Monthly Inspection

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

1GAB0B03

1GCKER0711

Montly inspection and minor maintenance of a single system.

Breakdown of Cost Data:

Item: Monthly inspection and minor maintenance.

Units: Dollars Unit Cost: 12k

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Breakdown of Cost Data:

Item: Annual supplies for a single system

Units: Dollars

Unit Cost: 400

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment. 12k cost based on 20 hours per month at \$50 per hour for 12 months per year.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	A5C	SUPPLIES	0000	NONE	K265S	ER Programs	Linear	269.60	Dollars
	Factors	400 dollars				0.674 January 2000 Earned Value Factor			
		SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	8.088.00	Dollars
	Factors	12000 dollars				0.674 January 2000 Earned Value Factor			

Line Item 30 - Quarterly Report

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

Quarterly reporting and meetings for a single system.

Breakdown of Historical Data:

Item: Preparation of SAP for Ryan's Pit source removal action.

Units: hours

Unit Cost: 320 hours (40 per quarter)

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment.

Resources

ces	Cost Element	Cost Element Skill			Department	Curve	Quantity	Units
	STRAIGHT TIME BASE	P050	COMPLIANCE INSPECTORS	R100S	RMRS Salaried	Linear	26.96	Hours

Factors 40 hrs 0.674 January 2000 Earned Value Factor

 WBS No:
 1GAB0B03
 Rocky Flats Closure Project

 Activity ID:
 1GCKER0711
 Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

Line Item 40 - Annual Review of System Performance

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

Annual review of system performance for a single system

Breakdown of Historical Data: Item: System Performance Review.

Units: hours

Unit Cost: 100 hours

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	P050	COMPLIANCE INSPECTORS	R100S	RMRS Salaried	Linear	67.40	Hours

Factors 100 hrs 0.674 January 2000 Earned Value Factor

Line Item 50 - Project Management

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

General project management for a single system.

Breakdown of Historical Data: Item: Project Management

Units: hours

Unit Cost: 156 hours (3 hours per week)

Unit Cost Adjustment Factor: 1.0
Revised Unit Hours:

Basis for adjustment.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	P050	COMPLIANCE INSPECTORS	R100S	RMRS Salaried	Linear	84.92	Hours
_	Factors 126 hrs 0.674 January 2000 Earned Value Factor								
	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	17.98	Hours

Factors 26.67 hrs 0.674 January 2000 Earned Value Factor

Activity ID: 1GCKER0715 Description: Plume Maintenance FY01

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Plume System Sampling	3.00	each	EE	40	120	3.547	56.835	0	60.382	1.692	62.074
20	Monthly Inspection			EE	0	0	0	31.647	0	31.647	0	31.647
30	Quarterly Report	3.00	each	EE	320	960	28.378	0	0	28.378	13.536	41.914
40	Annual Review of System Performance	3.00	each	EE	100	300	8.868	0	0	8.868	4.230	13.098
50	Proiect Management	3.00	each	EE	156	468	13.834	0	0	13.834	6.599	20.433
SYS	'S Contingency And Escalation		ea	EE	0	0	0	0	9.213	9.213	0	9.213
	Tot	al for Activi	tv 1GCKER)715:		1.848	54.627	88.482	9.213	152.322	26.057	178.379

Line Item 10 - Plume System Sampling

BOE

Estimator's Experience/Vendor Quote based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility and a conversation with Will Goldberg, MSE, (406) 494-7330, vendor who installed Mound Treatment System.

Item Desc:

Sampling requirements were derived from conversations with Leslie Dunstan RMRS SW Sampling coordinator, and Steve Singer, RMRS GW Monitoring Manager

Breakdown of Cost Data: Item: Analytical Services

Units: Dollars
Unit Cost: 10k

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Cost Risk

4 Schedule Risk

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY

Unit Cost Adjustment Factor: 1.0
Revised Unit Hours: n/a

Breakdown of Cost Data:
 Item: Monitoring Services
 Units: Dollars
 Unit Cost: 10k
 Unit Cost Adjustment Factor: 3.0
 Revised Unit Hours: n/a

Basis for adjustment. The adjustment factor of 3.0 is to apply the single system cost to 3 systems.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

WBS No:

Activity ID:

es		Cost Element		Skill		Department	Curve	Ouantity	Units
L	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
j	Factors	40 hrs							
L	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	2.029.82	Dollars
	Enstana	0400 dellara							

Factors 2400 dollars

A5H SUBCONTRACTED SRVS 0000 NONE K267S Analytical Laboratory Services Linear 16.915.20 Dollars

Factors 20000 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 20 - Monthly Inspection

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

1GAB0B03

1GCKER0715

Montly inspection and minor maintenance of a single system.

Breakdown of Cost Data:

Item: Monthly inspection and minor maintenance.

Units: Dollars

Unit Cost: 12k

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Breakdown of Cost Data:

Item: Annual supplies for a single system

Units: Dollars

Unit Cost: 400

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment. 12k cost based on 20 hours per month at \$50 per hour for 12 months per year.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	A5C	SUPPLIES	0000	NONE	K265S	ER Programs	Linear	400.00	Dollars
	Factors	400 dollars							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	10.149.12	Dollars

Factors 12000 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 30 - Quarterly Report

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

Quarterly reporting and meetings for a single system.

Breakdown of Historical Data:

Item: Preparation of Quarterly Resports Units: hours

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WBS No: 1GAB0B03 Activity ID: 1GCKER0715

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

Unit Cost: 160 hours (80 per quarter)
Unit Cost Adjustment Factor: 1.0
Revised Unit Hours: n/a
Basis for adjustment.

Resources Cos

 Cost Element
 Skill
 Department
 Curve
 Quantity
 Units

 750
 STRAIGHT TIME BASE
 E050
 ENVIRONMENTAL ENGINEERS
 R100S
 RMRS Salaried
 Linear
 320.00 Hours

Factors 320 hrs
Line Item 40 - Annual Review of System Performance

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

Annual review of system performance for a single system

Breakdown of Historical Data: Item: System Performance Review.

Units: hours

Unit Cost: 100 hours

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment.

Resources

ces	Cost Element	Skill	Department	Curve	Ouantity	Units
	STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	100.00	Hours

Factors 100 hrs

Line Item 50 - Project Management

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

General project management for a single system.

Breakdown of Historical Data: Item: Project Management Units: hours

Unit Cost: 156 hours (3 hours per week)

Unit Cost Adjustment Factor: 1.0 Revised Unit Hours:

nevibed onle noul

Basis for adjustment.

Resources

es		Cost Element Skill			Department	Curve	Quantity	Units	
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	156.00	Hours

Factors 156 hrs

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
L	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	5.655.52	Dollars
I	actors	5655.52 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	3.557.19	Dollars

Factors 3557.19 Dollars

Activity ID: 1GCKER0720 Description: Plume Maintenance FY02 Cost Risk 4 Schedule Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Plume System Sampling	3.00	each	EE	40	120	3.547	56.835	0	60.382	1.252	61.634
20	Monthly Inspection	3.00	each	EE	0	0	0	31.647	0	31.647	0	31.647
30	Qaurterly Report	3.00	each	EE	160	480	14.189	0	0	14.189	5.009	19.197
40	Annual Review of System Performance	3.00	each	EE	100	300	8.868	0	0	8.868	3.130	11.998
50	Project Management	3.00	each	EE	156	468	13.834	0	0	13.834	4.883	18.718

Proiect **Rocky Flats Closure Project** WBS Filter

1GAB **Baseline Cost and Basis of Estimate** Activity Filter

			Daseiii	ie Cost and	I Dasis UI E	Sumate	Activ	vity Filter *		Sta	rts In FY *	
SYS	Contingency And Escalation		1.00 ea	EE	0	0	0	0	22.091	22.091	0	22.091
•	· ·	Total fo	Total for Activity 1GCKER0720:			1.368	40.438	88.482	22.091	151.012	14.275	165.287

Line Item 10 - Plume System Sampling

1GAB0B03

1GCKER0720

BOE

WBS No:

Activity ID:

Estimator's Experience/Vendor Quote based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility and a conversation with Will Goldberg, MSE, (406) 494-7330, vendor who installed Mound Treatment System.

Item Desc:

Sampling requirements were derived from conversations with Leslie Dunstan RMRS SW Sampling coordinator, and Steve Singer, RMRS GW Monitoring Manager

Breakdown of Cost Data: Item: Analytical Services Units: Dollars Unit Cost: 20k Unit Cost Adjustment Factor: 1.0 Revised Unit Hours: n/a Breakdown of Cost Data: Item: Monitoring Services Units: Dollars Unit Cost: \$2,400

Unit Cost Adjustment Factor: 3.0 Revised Unit Hours: n/a

Basis for adjustment. The adjustment factor of 3.0 is to apply the single system cost to 3 systems. 40 hours for Env. Engineer oversight and support

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	2.029.82	Dollars
	Factors	2400 dollars							

						0.84576	ISYS 061400	01 .84576000 - 5	Svstem
Δ5H	SUBCONTRACTED SRVS	0000	NONE	K267S	Analytical Laboratory Services	Line	ear	16 915 20	Dollars

Factors 20000 dollars

0.84576 [SYS 061400] .84576000 - System

Baseline Devl

Line Item 20 - Monthly Inspection

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Montly inspection and minor maintenance of a single system.

Breakdown of Cost Data:

Item: Monthly inspection and minor maintenance.

Units: Dollars Unit Cost: 12k

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Breakdown of Cost Data:

Item: Annual supplies for a single system

Units: Dollars Unit Cost: 400

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment. 12k cost based on 20 hours per month at \$50 per hour for 12 months per year.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element	Skill	Department	Curve	Ouantity	Units
	•	•	•			

WBS No: 1GAB0B03 Rocky Flats Closure Proiect Proiect Baseline Devl
Activity ID: 1GCKER0720 Baseline Cost and Basis of Estimate

			Daseille Cost at	iu Dasis	Activity Filter	*	Starts In FY *
A5C	SUPPLIES	0000	NONE	K265S	ER Programs	Linear	400.00 Dollars
Factors	400 dollars						
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	10.149.12 Dollars

Factors 12000 dollars

Line Item 30 - Qaurterly Report

0.84576 [SYS 061400] .84576000 - System

Item Desc: Quarterly reporting and meetings for a single system.

Breakdown of Historical Data:
 Item: Quarterly Report
 Units: hours
 Unit Cost: 160 hours (40 per quarter)
 Unit Cost Adjustment Factor: 1.0
 Revised Unit Hours: n/a
Basis for adjustment.

Resources

es		Cost Element	Skill	Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	160.00	Hours

Factors 160 hrs

Line Item 40 - Annual Review of System Performance

BOE

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

Annual review of system performance for a single system

Breakdown of Historical Data:
 Item: System Performance Review.
 Units: hours
 Unit Cost: 100 hours
 Unit Cost Adjustment Factor: 1.0
 Revised Unit Hours: n/a

Basis for adjustment.

Resources

ces		Cost Element		Skill		Department	Curve	Quantity	Units	
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	100.00	Hours	

Factors 100 hrs

Line Item 50 - Project Management

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

General project management for a single system.

Breakdown of Historical Data: Item: Project Management Units: hours

Units nours

Unit Cost: 156 hours (3 hours per week)
Unit Cost Adjustment Factor: 1.0

Revised Unit Hours:

Basis for adjustment.

Resources

ces		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	F050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	156.00	Hours

Factors 156 hrs

Line Item SYS - Contingency And Escalation

BOE

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WBS No: 1GAB0B03 Baseline Devl Proiect **Rocky Flats Closure Project** Activity ID: 1GCKER0720 WBS Filter 1GAB

Baseline Cost and Basis of Estimate Activity Filter

Units Resources Cost Element Skill Department Curve CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 15.399.73 Dollars Factors 15399.7 Dollars

0000 NONE ZDEPT No Department 6.691.72 Dollars ESC ESCALATION Linear

Factors 6691.72 Dollars

Activity ID: 1GCKER0725 Description: Plume Maintenance FY03 Cost Risk 4 Schedule Risk BOE Materials/ Sub Total Prime Line Item Description **Ouantity** Units Labor Labor Hours Labor Cost Contingency Burden Cost Total Cost TypeHours/Unit Total Total Cost & Escalation Cost 10 Plume System Sampling EE 40 120 3.547 56.835 60.382 1.227 3.00 each n 61.610 20 Monthly Inspection 3.00 each EE 0 0 31.647 0 31.647 0 31.647 30 Qaurterly Report 3.00 each EE 160 480 14.189 0 0 14.189 4.909 19.098 EE 40 Annual Review of System Performance 300 8.868 0 8.868 3.068 3.00 each 100 0 11.936 50 Project Management 3.00 each EE 156 468 13.834 0 13.834 4.787 18.621 0 SYS Contingency And Escalation 1.00 ea FF 40.861 40.861 Λ 0 Λ Λ 40.861 0 Total for Activity 1GCKER0725: 1.368 40.438 88.482 40.861 169.782 13.992 183.773

Line Item 10 - Plume System Sampling

BOE

Estimator's Experience/Vendor Quote based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility and a conversation with Will Goldberg, MSE, (406) 494-7330, vendor who installed Mound Treatment System.

Sampling requirements were derived from conversations with Leslie Dunstan RMRS SW Sampling coordinator, and Steve Singer, RMRS GW Monitoring Manager

Breakdown of Cost Data: Item: Analytical Services Units: Dollars Unit Cost: 20k

Unit Cost Adjustment Factor: 1.0 Revised Unit Hours: n/a

Breakdown of Cost Data: Item: Monitoring Services Units: Dollars Unit Cost: \$2400

Unit Cost Adjustment Factor: 3.0 Revised Unit Hours: n/a

Basis for adjustment. The adjustment factor of 3.0 is to apply the single system cost to 3 systems. 40 hours of Env. Eng. For oversight and support.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost	Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TI	IME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 h	rs							
	A5H	SUBCONTRA	ACTED SRVS	0000	NONE	K265S	ER Programs	Linear	2.029.82	Dollars
	Factors	2400 d	ollars							

0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS 0000 NONE K267S Analytical Laboratory Services 16.915.20 Dollars

Factors 20000 dollars

0.84576 [SYS 061400] .84576000 - System

Starts In FY

Line Item 20 - Monthly Inspection

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Montly inspection and minor maintenance of a single system.

Breakdown of Cost Data:

Item: Monthly inspection and minor maintenance.

Units: Dollars

Page 131 of 182 6/23/00 9:02:53 AM OFFICIAL USE ONLY WBS No: 1GAB0B03 **Rocky Flats Closure Project** Activity ID: 1GCKER0725 **Baseline Cost and Basis of Estimate**

Baseline Devl Proiect WBS Filter 1GAB Activity Filter

Starts In FY

Unit Cost: 12k Unit Cost Adjustment Factor: 1.0 Revised Unit Hours: n/a Breakdown of Cost Data: Item: Annual supplies for a single system Units: Dollars Unit Cost: 400 Unit Cost Adjustment Factor: 1.0 Revised Unit Hours: n/a

Basis for adjustment. 12k cost based on 20 hours per month at \$50 per hour for 12 months per year.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	A5C	SUPPLIES	0000	NONE	K265S	ER Programs	Linear	400.00	Dollars
_	Factors	400 dollars							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	10.149.12	Dollars

12000 dollars Factors

0.84576 [SYS 061400] .84576000 - System

Line Item 30 - Qaurterly Report

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Quarterly reporting and meetings for a single system.

Breakdown of Historical Data: Item: Quarterly Report Units: hours

Unit Cost: 160 hours (40 per quarter) Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a Basis for adjustment.

Resource

ırces		Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	160.00	Hours

Factors 160 hrs

Line Item 40 - Annual Review of System Performance

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Annual review of system performance for a single system

Breakdown of Historical Data:

Item: System Performance Review.

Units: hours

Unit Cost: 100 hours

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment.

Resource

ces		Cost Element		Skill		Department	Curve	Ouantity	Units	l
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	100.00	Hours	J

Factors 100 hrs

Line Item 50 - Project Management

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

General project management for a single system.

Rocky Flats Closure Project Baseline Cost and Basis of Estimate Proiect WBS Filter Activity Filter

Baseline Devl 1GAB

Starts In FY *

Breakdown of Historical Data: Item: Project Management

Units: hours

1GAB0B03

1GCKER0725

Unit Cost: 156 hours (3 hours per week) Unit Cost Adjustment Factor: 1.0

Revised Unit Hours:

Basis for adjustment.

Resource

ces		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	156.00	

Factors 156

Line Item SYS - Contingency And Escalation

BOE

WBS No:

Activity ID:

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	29.901.96	Dollars
	Factors	29902 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	10.959.25	Dollars

Factors 10959.3 Dollars

Activity ID: 1GCKER0730

Description: Plume Maintenance FY04

Cost Risk 4 Schedule Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Plume System Sampling	3.00	each	EE	40	120	3.547	56.835	0	60.382	1.000	61.383
20	Monthly Inspection	3.00	each	EE	0	0	0	31.647	0	31.647	0	31.647
30	Qaurterly Report	3.00	each	EE	160	480	14.189	0	0	14.189	4.001	18.190
40	Annual Review of System Performance	3.00	each	EE	100	300	8.868	0	0	8.868	2.501	11.369
50	Proiect Management	3.00	each	EE	156	468	13.834	0	0	13.834	3.901	17.735
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	20.515	20.515	0	20.515
	Tot	al for Activi	ty 1GCKER	0730:		1.368	40.438	88.482	20.515	149.436	11.404	160.839

Line Item 10 - Plume System Sampling

BOE

Estimator's Experience/Vendor Quote based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility and a conversation with Will Goldberg, MSE, (406) 494-7330, vendor who installed Mound Treatment System.

Sampling requirements were derived from conversations with Leslie Dunstan RMRS SW Sampling coordinator, and Steve Singer, RMRS GW Monitoring Manager

Breakdown of Cost Data: Item: Analytical Services Units: Dollars Unit Cost: 20k Unit Cost Adjustment Factor: 1.0 Revised Unit Hours: n/a Breakdown of Cost Data:

Item: Monitoring Services Units: Dollars

Unit Cost: \$2,400

Unit Cost Adjustment Factor: 3.0

Revised Unit Hours: n/a

Basis for adjustment. The adjustment factor of 3.0 is to apply the single system cost to 3 systems. 40 hours of env. Engineer time for oversight and support

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resource

ces		Cost Element	Skill		Department	Curve	Ouantity	Units
Į	750 STRAIGH	T TIME BASE E09	50 ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
_	Factors 40	hrs						

 WBS No:
 1GAB0B03
 Rockv Flats Closure Project
 Project
 Baseline Devi

 Activity ID:
 1GCKER0730
 Baseline Cost and Basis of Estimate
 WBS Filter Activity Filter
 1GAB

Activity Filter * Starts In FY *

A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs Linear 2.029.82 Dollars

Factors 2400 dollars

0.84576 [SYS 061400] .84576000 - System

A5H | SUBCONTRACTED SRVS | 0000 | NONE | K267S | Analytical Laboratory Services | Linear | 16.915.20 | Dollars

Factors 20000 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 20 - Monthly Inspection

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc

Montly inspection and minor maintenance of a single system.

Breakdown of Cost Data:

Item: Monthly inspection and minor maintenance.

Units: Dollars
Unit Cost: 12k

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Breakdown of Cost Data:

Item: Annual supplies for a single system

Units: Dollars

Unit Cost: 400

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment. 12k cost based on 20 hours per month at \$50 per hour for 12 months per year.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element		Skill			Department	Curve	Quantity	Units
	A5C	SUPPLIES	0000	NONE	K265S	ER Programs	Linear	400.00	Dollars
i	Factors	400 dollars							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	10.149.12	Dollars

Factors 12000 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 30 - Qaurterly Report

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

Quarterly reporting and meetings for a single system.

Description of Highway and D

Breakdown of Historical Data:

Item: Preparation of SAP for Ryan's Pit source removal action.

Units: hours

Unit Cost: 160 hours (40 per quarter)

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment.

Resources

rces	Cost Element		Skill		Department	Curve	Ouantity	Units
Į	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	160.00	Hours

Factors 160 hrs Line Item 40 - Annual Review of System Performance

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

Annual review of system performance for a single system

Breakdown of Historical Data:

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Proiect Baseline Devl **Rocky Flats Closure Project** WBS Filter 1GAB **Baseline Cost and Basis of Estimate** Activity Filter

Item: System Performance Review. Units: hours

1GAB0B03

1GCKER0730

Unit Cost: 100 hours

Unit Cost Adjustment Factor: 1.0 Revised Unit Hours: n/a

Basis for adjustment.

Resources

BOE

WBS No:

Activity ID:

es	Cost Element	Skill	Department	Curve	Ouantity	Units
750	STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	100.00	Hours

Factors 100

Line Item 50 - Project Management

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

General project management for a single system.

Breakdown of Historical Data: Item: Project Management

Units: hours

Unit Cost: 156 hours (3 hours per week)

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours:

Basis for adjustment.

Resources

es	Cost Element			Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	156.00	Hours

Factors 156 hrs

Line Item SYS - Contingency And Escalation

Resources

es	Cost Element Skill			Department	Curve	Quantity	Units		
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	7.041.70	Dollars
_	Factors	7041.70 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	13.473.39	Dollars

Factors 13473.4 Dollars

Activity ID: 1GCKER0735 Description: Plume Maintenance FY05 Cost Risk 5 Schedule Risk

ACCUPACY ID.	Description Fluido Maintonano Fro							COSTITUSTO	O Benedine 1	tion.		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
10	Reactive Media Replacement	4.00	each	EE	40	160	4.730	75.780	0	80.510	1.646	82.156
15	Plume System Sampling	4.00	each	EE	40	160	4.730	75.780	0	80.510	1.646	82.156
20	Monthly Inspection	4.00	each	EE	0	0	0	42.196	0	42.196	0	42.196
30	Quarterly Report	4.00	each	EE	160	640	18.918	0	0	18.918	6.584	25.502
40	Annual Review of System Performance	4.00	each	EE	100	400	11.824	0	0	11.824	4.115	15.939
50	Project Management	4.00	each	EE	156	624	18,445	0	0	18,445	6,419	24,864
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	155,800	155,800	0	155,800
	To	otal for Activ	ity 1GCKFR	0735		1 984	58 647	193 757	155 800	408 204	20 409	428 613

Line Item 10 - Reactive Media Replacement

BOE

Estimator's Experience/Vendor Quote based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility and a conversation with Will Goldberg, MSE, (406) 494-7330, vendor who installed Mound Treatement System.

Item Desc:

Ten year reactive media (iron) changeout. Iron will be purcahsed from Connelly for \$400 per ton delivered to RFETS. Assumed 50 tons of iron in each system. Will be changed out using a vac truck system.

Breakdown of Cost Data:

Item: Vac Truck. (\$100 per hour, assume 24 hours per system)

Units: Dollars

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Starts In FY

WBS No: 1GAB0B03 Activity ID: 1GCKER0735

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Activity Filter Baseline Devl

1GAB

Starts In FY *

Unit Cost: 2.4k Unit Cost Adjustment Factor: 1.0 Revised Unit Hours: n/a Breakdown of Cost Data: Item: Iron. (\$400 per ton delivered to site, Will Golderg, MSE (406) 494-7330. 50 tons per system) Units: Dollars Unit Cost: 20k Unit Cost Adjustment Factor: 1.0 Revised Unit Hours: 20k Breakdown of Cost Data: Item: Supervision of transfer operation Units: Dollars Unit Cost: 40 Unit Cost Adjustment Factor: 1.0 Revised Unit Hours: n/a Basis for adjustment. The adjustment factor of 4.0 is to apply the single sytem cost to 4 systems. This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	16,915.20	Dollars
	Factors	20000 dollars							

0.84576 [SYS 061400] .84576000 - System 0000 NONE K265S ER Programs A5H SUBCONTRACTED SRVS

Factors 2400 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 15 - Plume System Sampling

BOE

Estimator's Experience/Vendor Quote based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility and a conversation with Will Goldberg, MSE, (406) 494-7330, vendor who installed Mound Treatment System.

Sampling requirements were derived from conversations with Leslie Dunstan RMRS SW Sampling coordinator, and Steve Singer, RMRS GW Monitoring Manager

Breakdown of Cost Data: Item: Analytical Services Units: Dollars Unit Cost: 20k Unit Cost Adjustment Factor: 1.0 Revised Unit Hours: n/a Breakdown of Cost Data: Item: Monitoring Services Units: Dollars Unit Cost: \$2,400 Unit Cost Adjustment Factor: 3.0 Revised Unit Hours: n/a

Basis for adjustment. The adjustment factor of 3.0 is to apply the single system cost to 3 systems. 40 hours of env. Engineer time for oversight and support.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es			Skill			Department	Curve	<i>Ouantity</i>	Units	
	750 STRAIGHT	TTIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours	
	Factors 40	hrs								

WBS No: 1GAB0B03 Rockv Flats Closure Project Project Baseline Devl Activity ID: 1GCKER0735 Baseline Cost and Basis of Estimate

Factors 2400 dollars

0.84576 [SYS 061400] .84576000 - System

A5H | SUBCONTRACTED SRVS | 0000 | NONE | K267S | Analytical Laboratory Services | Linear | 16.915.20 | Dollars

Factors 20000 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 20 - Monthly Inspection

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc

Montly inspection and minor maintenance of a single system.

Breakdown of Cost Data:

Item: Monthly inspection and minor maintenance.

Units: Dollars
Unit Cost: 12k

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Breakdown of Cost Data:

Item: Annual supplies for a single system

Units: Dollars

Unit Cost: 400

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment. 12k cost based on 20 hours per month at \$50 per hour for 12 months per year.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element		Skill	Department		Curve	Quantity	Units	
	A5C	SUPPLIES	0000	NONE	K265S	ER Programs	Linear	400.00	Dollars
	Factors	400 dollars							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	10.149.12	Dollars

Factors 12000 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 30 - Quarterly Report

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

Quarterly reporting and meetings for a single system.

Breakdown of Historical Data:

Item: Preparation of SAP for Ryan's Pit source removal action.

Units: hours

Unit Cost: 160 hours (40 per quarter)

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment.

Resources

rces		Cost Element	Si	kill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050 ENVIRONMEN	NTAL ENGINEERS R1	100S	RMRS Salaried	Linear	160.00	Hours
	Factors	160 hrs							

Line Item 40 - Annual Review of System Performance

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

Annual review of system performance for a single system

Breakdown of Historical Data:

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Rockv Flats Closure Proiect

Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

*

Baseline Devl
1GAB
*

**

Item: System Performance Review.
Units: hours

Unit Cost: 100 hours

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment.

Resources

BOE

WBS No:

Activity ID:

es	Cost Element Skill			Department	Curve	<i>Ouantity</i>	Units	
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	100.00	Hours

Factors 100 hrs

Line Item 50 - Project Management

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

1GAB0B03

1GCKER0735

General project management for a single system.

Breakdown of Historical Data: Item: Project Management

Units: hours

Unit Cost: 156 hours (3 hours per week)

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours:

Basis for adjustment.

Resources

es		Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGI	HT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	156.00	Hours

Factors 156 hrs

Line Item SYS - Contingency And Escalation

ROF

BOE

Resources

es		Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	113.537.20	Dollars
	Factors	113537 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	42.262.94	Dollars

Factors 42262.9 Dollars

Activity ID: 1GCKER0740 Description: End of Plume Maintenance Cost Risk 4 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		Į
10	Plume System Sampling	4.00	each	EE	40	160	4.730	77.261	0	81.990	5.819	87.810
20	Monthly Inspection	4.00	each	EE	0	0	0	42.196	0	42.196	0	42.196
30	Quarterly Report	4.00	each	EE	160	640	18.918	0	0	18.918	23.278	42.196
40	Annual Review of System Performance	4.00	each	EE	100	400	11.824	0	0	11.824	14.548	26.372
50	Project Management	4.00	each	EE	156	624	18.445	0	0	18.445	22.696	41.141
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	101,329	101,329	0	101,329
	To	tal for Activ	ity 1GCKER	0740:		1,824	53,917	119,457	101,329	274,703	66,341	341,044

Line Item 10 - Plume System Sampling

Estimator's Experience/Vendor Quote based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility and a conversation with Will Goldberg, MSE, (406) 494-7330, vendor who installed Mound Treatment System.

Item Desc:

Sampling requirements were derived from conversations with Leslie Dunstan RMRS SW Sampling coordinator, and Steve Singer, RMRS GW Monitoring Manager

Breakdown of Cost Data: Item: Analytical Services Units: Dollars Unit Cost: 20k

Unit Cost Adjustment Factor: 4.0

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Starts In FY

WBS No: 1GAB0B03
Activity ID: 1GCKER0740

Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

Revised Unit Hours: n/a

Breakdown of Cost Data:
 Item: Monitoring Services
 Units: Dollars
 Unit Cost: \$2400
 Unit Cost Adjustment Factor: 4.0
 Revised Unit Hours: n/a

Breakdown of Cost Data:
 Item: Supplies and equipment
 Units: Dollars
 Unit Cost Adjustment Factor: 4.0
 Revised Unit Hours: n/a

Basis for adjustment. The adjustment factor of 4.0 is to apply the single system cost to 3 systems. 40 hours of Env. Eng. Time for oversight and maintenance

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element		Skill			Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE E050		ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours	
-	Factors	40 hrs							
	A5C	SUPPLIES	0000	NONE	K253S	Remediation. Industrial & Site Serv	Linear	2.400.00	Dollars
	Factors	2400 dollars							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K253S	Remediation. Industrial & Site Serv	Linear	16.915.20	Dollars

Factors 20000 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 20 - Monthly Inspection

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc

Monthly inspection and minor maintenance of a single system.

Breakdown of Cost Data:

Item: Monthly inspection and minor maintenance.

Units: Dollars

Unit Cost: 12k

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Breakdown of Cost Data:

Item: Annual supplies for a single system

Units: Dollars

Unit Cost: 400

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment. 12k cost based on 20 hours per month at \$50 per hour for 12 months per year.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s		Cost Element		Skill	Department	Curve	Quantity	Units
	A5C	SUPPLIES	0000	NONE	R100S RMRS Salaried	Linear	400.00	Dollars
	Factors	400 dollars						
		SUBCONTRACTED SRVS	0000	NONE	K265S ER Programs	Linear	10.149.12	Dollars

Factors 12000 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 30 - Quarterly Report

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

WBS No: 1GAB0B03 1GCKER0740 Activity ID:

Rocky Flats Closure Project Baseline Cost and Basis of Estimate Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Starts In FY *

Item Desc: Quarterly reporting and meetings for a single system. Breakdown of Historical Data: Item: Preparation of SAP for Ryan's Pit source removal action. Units: hours Unit Cost: 160 hours (40 per quarter) Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a Basis for adjustment.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	160.00	Hours

Factors 160 hrs Line Item 40 - Annual Review of System Performance

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

Annual review of system performance for a single system

Breakdown of Historical Data: Item: System Performance Review. Units: hours Unit Cost: 100 hours Unit Cost Adjustment Factor: 1.0 Revised Unit Hours: n/a

Basis for adjustment.

Resources

Cost Element		Skill	Department	Curve	Ouantity Units
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	100.00 Hours

100 hrs Factors

Line Item 50 - Project Management BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

General project management for a single system.

Breakdown of Historical Data: Item: Project Management Units: hours

Unit Cost: 156 hours (3 hours per week) Unit Cost Adjustment Factor: 1.0 Revised Unit Hours:

Basis for adjustment.

Resources

es	Cost Element	Skill	Department	Curve	Quantity Units
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	156.00 Hours

Factors 156 hrs

Line Item SYS - Contingency And Escalation

BOE

Resources

es	Cost Element		Skill			Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	56.219.61	Dollars
	Factors	56219.6 Dollars							
		ESCALATION	0000	NONE	ZDEPT	No Department	Linear	45.109.03	Dollars

Factors 45109.0 Dollars

Activity ID: 1GXXXER073 Description: Plume Maintenance FY06

							1						
Line Ite	em	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
					Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		

5 Schedule Risk

Cost Risk

Rocky Flats Closure Project Project Baseline Devl Baseline Cost and Basis of Estimate WBS Filter 1GAB

		<u> </u>	o ooot and	u Duoio oi D	oumato.	Acti	vitv Filter *		Sto	irts In FY *	
10	Reactive Media Replacement	3.86 each	EE	40	154	4.564	73.121	0	77.685	1.588	79.273
15	Plume System Sampling	3.86 each	EE	40	154	4.564	73.121	0	77.685	1.588	79.273
20	Monthly Inspection	3.86 each	EE	0	0	0	40.716	0	40.716	0	40.716
30	Quarterly Report	3.86 each	EE	160	618	18.255	0	0	18.255	6.353	24.607
40	Annual Review of System Performance	3.86 each	EE	100	386	11.409	0	0	11.409	3.970	15.379
50	Proiect Management	3.86 each	EE	156	602	17.798	0	0	17.798	6.194	23.992
SYS	Contingency And Escalation	1.00 ea	EE	0	0	0	0	239.592	239.592	0	239.592
		Total for Activity 1GXX	XFR073:		1 914	56 589	186 958	239 592	483 139	19 693	502 832

Line Item 10 - Reactive Media Replacement

1GAB0B03

1GXXXER073

BOE

WBS No:

Activity ID:

Estimator's Experience/Vendor Quote based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility and a conversation with Will Goldberg, MSE, (406) 494-7330, vendor who installed Mound Treatement System.

Item Desc

Ten year reactive media (iron) changeout. Iron will be purcahsed from Connelly for \$400 per ton delivered to RFETS. Assumed 50 tons of iron in each system. Will be changed out using a vac truck system.

Breakdown of Cost Data:

Item: Vac Truck. (\$100 per hour, assume 24 hours per system)

Units: Dollars

Unit Cost: 2.4k

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Breakdown of Cost Data:

Item: Iron. (\$400 per ton delivered to site, Will Golderg, MSE (406) 494-7330. 50 tons per system)

Units: Dollars

Unit Cost: 20k

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: 20k

Breakdown of Cost Data:

Item: Supervision of transfer operation

Units: Dollars

Unit Cost: 40

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment. The adjustment factor of 4.0 is to apply the single sytem cost to 4 systems.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es	Cost Element			Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	16.915.20	Dollars
	Factors	20000 dollars							

A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs Linear 2.029.82 Dollars

Factors 2400 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 15 - Plume System Sampling

BOE

Estimator's Experience/Vendor Quote based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility and a conversation with Will Goldberg, MSE, (406) 494-7330, vendor who installed Mound Treatment System.

Item Desc

Sampling requirements were derived from conversations with Leslie Dunstan RMRS SW Sampling coordinator, and Steve Singer, RMRS GW Monitoring Manager

Breakdown of Cost Data:

Item: Analytical Services

Units: Dollars

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WBS No: 1GAB0B03 Activity ID: 1GXXXER073

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Starts In FY

Unit Cost:

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Breakdown of Cost Data:

Item: Monitoring Services Units: Dollars

Unit Cost: \$2,400

Unit Cost Adjustment Factor: 3.0

Revised Unit Hours: n/a

Basis for adjustment. The adjustment factor of 3.0 is to apply the single system cost to 3 systems. 40 hours of env. Engineer time for oversight and

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	2.029.82	Dollars
	Factors	2400 dollars							

0.84576 [SYS 061400] .84576000 - System 0000 NONE A5H SUBCONTRACTED SRVS K267S Analytical Laboratory Services 16.915.20 Dollars Linear

Factors 20000 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 20 - Monthly Inspection

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Montly inspection and minor maintenance of a single system.

Breakdown of Cost Data:

Item: Monthly inspection and minor maintenance.

Units: Dollars

Unit Cost: 12k

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Breakdown of Cost Data:

Item: Annual supplies for a single system

Units: Dollars

Unit Cost: 400

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment. 12k cost based on 20 hours per month at \$50 per hour for 12 months per year.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	A5C	SUPPLIES	0000	NONE	K265S	ER Programs	Linear	400.00	Dollars
4	Factors	400 dollars							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	10.149.12	Dollars

Factors 12000 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 30 - Quarterly Report

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Quarterly reporting and meetings for a single system.

Page 142 of 182 6/23/00 9:02:55 AM OFFICIAL USE ONLY WBS No: 1GAB0B03 Activity ID: 1GXXXER073

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY

Breakdown of Historical Data:

Item: Preparation of SAP for Ryan's Pit source removal action.

Units: hours

Unit Cost: 160 hours (40 per quarter)

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Resources

 Cost Element
 Skill
 Department
 Curve
 Quantity
 Units

 750
 STRAIGHT TIME BASE
 E050
 ENVIRONMENTAL ENGINEERS
 R100S
 RMRS Salaried
 Linear
 160.00 Hours

Factors 160 hrs

Basis for adjustment.

Line Item 40 - Annual Review of System Performance

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

Annual review of system performance for a single system

Breakdown of Historical Data:
Item: System Performance Review.

Units: hours

Unit Cost: 100 hours

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours: n/a

Basis for adjustment.

Resource

rces		Cost Element		Skill	Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	100.00	Hours

Factors 100 hrs

Line Item 50 - Project Management

BOE

Estimator's Experience based on a conversation with Frank Huffman, Manager of the B891 consolidated wastewater treatment facility.

Item Desc:

General project management for a single system.

Breakdown of Historical Data: Item: Project Management

Units: hours

Unit Cost: 156 hours (3 hours per week)

Unit Cost Adjustment Factor: 1.0

Revised Unit Hours:

Basis for adjustment.

Resource

ces		Cost Element		Skill		Department	Curve	Ouantity	Units	
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	156.00	Hours	

Factors 156 hrs

Line Item SYS - Contingency And Escalation

BOE

Resource

ces		Cost Element		Skill		Department	Curve	Ouantity	Units	
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	180.875.70	Dollars	
	Factors	180876 Dollars								
[ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	58.715.83	Dollars	

Factors 58715.8 Dollars

WBS No: 1GAB	0B04 Title: OU-1 French Drain Remova	al										
Activity ID: 1G0	FDR0003 Description: Prepare CAD/ROD Ammend	dment For OU-1 French Drain							Cost Risk 1 Schedule Risk 4			
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	Modification to CAD/ROD	1.00	each	EE	44	44	1.408	0	0	1.408	687	2.095

 WBS No:
 1GAB0B04

 Activity ID:
 1G0FDR0003

Rockv Flats Closure Project Project Baseline Cost and Basis of Estimate Project Baseline Devl URS Filter 1GAB

Total for Activity 1G0FDR0003: 44 1.408 0 0 1.408

Starts In FY

687

2.095

Line Item 0100 - Modification to CAD/ROD

BOE

Estimator's Experience based generally on historical data for developing the Proposed Action Memorandum for Ryan's Pit.

Item Desc:

Finalize Major Modification to the OU1 CAD/ROD, finalize responses to Agency comments on Major Modification to CAD/ROD, transmit documents to DOE.

Breakdown of Cost Data:

Item: Modification to OU1 CAD/ROD.

Units: hours

Unit Cost: 44

Unit Cost Adjustment Factor: None

Revised Unit Hours: None

Basis for adjustment. None

Resources

es		Cost Element		Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E050 ENVI	IRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	39.50 Hours
	Factors	158 hrs	0.25	5 January 2000 Earned Value	Factor			
	750	STRAIGHT TIME BASE	M020 MANA	AGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	4.50 Hours

18 hrs 0.25 January 2000 Earned Value Factor

Activity ID: 1G0FDR0021 Description: Procurement and Field Prep OU-1 French Drain

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours		~ .	Contingency	Total Prime	Burden Cost	Total Cost
			Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost			
0100	Procurement & Field Prep	0.50 each E			359	180	4.976	1.250	0	6.226	2.428	8.654
	Total for Activity 1G0FDR0021:					180	4.976	1.250	0	6.226	2.428	8.654

Line Item 0100 - Procurement & Field Prep

BOE

Estimator's Experience based generally on historical data for Trench 1 and T-3/T4 Remediation.

Item Desc

Prepare Statement of Work, IWCP work package/engineering design, Conflict of Interest Documentation, Request for Proposal, Technical Evaluation, Contract Negotiations, Contract meetings, Davis-Bacon Determination, Ecology Survey/NEPA Support, and Utility Clearance/Soil Disturbance Permit, Waste Management Plan.

Breakdown of Cost Data: Item: RFETS Labor Units: hours Unit Cost: 359

Unit Cost Adjustment Factor: .5

Revised Unit: None

Item: Subcontractor costs to perform above individual tasks for either Trench 1 or T-3/T-4.

Units: lot

Unit Cost: \$10,000

Unit Cost Adjustment Factor: 0.25

Revised Unit: \$2,500

Basis for adjustment. None

Resources

s	Cost Element		Skill		Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	35.00 Hours
Factors	35 Hours						
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	R100S	RMRS Salaried	Linear	10.00 Hours
Factors	10 hrs						
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	13.00 Hours
Factors	13 hrs	,		,			, , , , , , , , , , , , , , , , , , , ,
750	STRAIGHT TIME BASE	P050	COMPLIANCE INSPECTORS	R100S	RMRS Salaried	Linear	266.00 Hours
Factors	266 hrs	,		,			
750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	10.00 Hours
Factors	10 hrs						

Cost Risk

1 Schedule Risk

WBS No: 1GAB0B04 Baseline Devl Proiect **Rocky Flats Closure Project** 1GAB Activity ID: 1G0FDR0021 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 750 STRAIGHT TIME BASE P090 INDUSTRIAL HYGIENISTS R100S RMRS Salaried 10.00 Hours Linear Factors 10 hrs S020 ENVIRONMENTAL SCIENTISTS R100S RMRS Salaried 10.00 Hours 750 STRAIGHT TIME BASE Linear Factors 10 hrs 750 STRAIGHT TIME BASE T050 RADIATION CONTROL TECHNOLIGI KG10H Remediation Steelworkers Linear 5.00 Hours Factors 5 hrs A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs 2.500.00 Dollars Linear Factors 2500 Dollars Activity ID: 1G0FDR0030 Description: Readiness Assessment for OU-1 French Drain Cost Risk 1 Schedule Risk Line Item Description **Ouantity** BOELabor Labor Hours Labor Cost Materials/ Sub Contingency Total Prime Burden Cost Total Cost Units Type Hours/Unit **Total** Total Cost & Escalation Cost FF 1.250 Readiness Assessment 40 40 15.496 16.746 610 17.356 0100 1.00 each n Total for Activity 1G0FDR0030: 40 1.250 15.496 16.746 610 17.356 Line Item 0100 - Readiness Assessment Estimator's Experience based generally on historical data for T-3/T4 and Trench 1 Remediation. See Cost Estimate for OU1 French Drain Decommissioning, April BOE 11, 2000. Item Desc: Conduct Readiness Assessment in support of French Drain decommissioning activities. This activity includes subcontractor preparation of the project Work Plan, Safety & Health Plan, Corporate Health & Safety Program submittal, and Quality Control Program submittal. Breakdown of Cost Data: Item: RFETS Labor to perform internal readiness review. Units: hours Unit Cost: 40 Unit Cost Adjustment Factor: None Revised Unit: None Item: Subcontractor costs to develop implementation documentation. Units: lot Unit Cost: Unit Cost Adjustment Factor: None Revised Unit: None Basis for adjustment: None Resources Skill Department Curve Units Cost Element E020 CIVIL ENGINEERS R100S RMRS Salaried 750 STRAIGHT TIME BASE Linear 4.00 Hours Factors 4 Hours 750 STRAIGHT TIME BASE E110 QUALITY CONTROL ENGINEERS R100S RMRS Salaried 4.00 Hours Linear **Factors** 4 Hours M020 MANAGERS (GRADE 69 - 72) K265S ER Programs 4.00 Hours 750 STRAIGHT TIME BASE Linear Factors 4 Hours 750 STRAIGHT TIME BASE P090 INDUSTRIAL HYGIENISTS R100S RMRS Salaried Linear 4.00 Hours Factors 4 Hours 750 STRAIGHT TIME BASE P170 OTHER ADMINISTRATIVE & PROFE | R100S | RMRS Salaried 20.00 Hours Linear Factors 20 Hours 750 STRAIGHT TIME BASE S020 ENVIRONMENTAL SCIENTISTS R100S RMRS Salaried 4.00 Hours Linear Factors 4 Hours 15.496.00 Dollars 0000 NONE K265S ER Programs A5H SUBCONTRACTED SRVS Linear Factors 15496 sub/c dollars - documentation

Activity ID: 1G0F	vity ID: 1G0FDR0035 Description: OU-1 French Drain Construction											
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	Mobilization/Site Preparation	1.00	each	EE	140	140	4,065	32,167	0	36,232	1,984	38,216
0200	French Drain Decommissioning	1.00	each	TP	216	216	5.993	39.780	0	45.773	2.925	48.698

Rocky Flats Closure Proiect Proiect Baseline Devl Baseline Cost and Basis of Estimate WBS Filter 1GAB

							Activ	itv Filter *		Sto	ırts In FY *		
0300	Site Restoration		1.00 each	TP	24	24	709	4.563	0	5.272	346	5.619	
	•	Tota		R0035		380	10.768	76 510	0	87 278		92 533	

Line Item 0100 - Mobilization/Site Preparation

1GAB0B04

1G0FDR0035

BOE

WBS No:

Activity ID:

Estimators Experience - Estimated costs are based on experience from similar Environmental Restoration excavation projects. See Cost Estimate for OU1 French Drain Decommissioning, April 11, 2000.

Mobilization includes:

- subcontractor training,
- deliver equipment and materials,
- mobilize and baseline survey heavy equipment

Site Preparation includes:

- electrical disconnect, establishing work zones, installing erosion controls, performing survey, setup facilities

Experience Item Desc - Trench 1, T-3/T-4, Ryan's Pit Breakdown of Cost Data:

Item - RFETS Labor

Units - Hours Unit Cost - 140

Unit Cost Adjustment factor - None

Revised Unit Cost - None Basis for adjustment - None

Item - Subontractor Costs

Units - lot

Unit Cost - \$32,167 sub/c Revised Unit Cost - None Basis for adjustment - None

Resources

S Cost Element		Skill		Department	Curve	Ouantity Units
750 STRAIGHT TIME BASE	E020	CIVIL ENGINEERS	R100S	RMRS Salaried	Linear	18.00 Hours
Factors 18 hrs						
750 STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	70.00 Hours
Factors 70 hrs						
750 STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	3.00 Hours
Factors 3 hrs						
750 STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	33.00 Hours
Factors 33 hrs						
750 STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	16.00 Hours
Factors 16 Hours						
A5H SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	32.167.00 Dollars
Factors 32167 sub/c support						

Line Item 0200 - French Drain Decommissioning

BOE

Estimators Experience - Estimated costs are based on experience from similar Environmental Restoration excavation projects. See Cost Estimate for OU1 French Drain Decommissioning, April 11, 2000.

Decommissioning activities include:

- Excavating and removing two submerged sump pumps and one water-level sensor standpipe,
- Removing pipe and valves from one concrete vault,
- Removing one monitoring well,
- Excavating and installing a new outfall trench system, including piping, geotextile, geogrid, and drain rock,
- Backfilling the trench and site grading,
- Release survey/decon/demobilize heavy equipment and demobilize site.

Experience Item Desc - Trench 1, T-3/T-4, Ryan's Pit

Breakdown of Cost Data:

Item - RFETS Labor

Units - Hours Unit Cost - 216

Unit Cost Adjustment factor - None

Revised Unit Cost - None

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Rockv Flats Closure Project
Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

Basis for adjustment - None

Item - Subontractor Costs
Units - lot
Unit Cost - \$39,780 sub/c
Revised Unit Cost - None
Basis for adjustment - None

1GAB0B04

1G0FDR0035

Resources

WBS No:

Activity ID:

s	Cost Element		Skill		Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	E020	CIVIL ENGINEERS	R100S	RMRS Salaried	Linear	40.00 Hours
Factors	40 hrs						
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	70.00 Hours
Factors	70 Hours						
750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	10.00 Hours
Factors	10 Hours						
750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	10.00 Hours
Factors	10 Hours						
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	34.00 Hours
Factors	34 hrs						
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	52.00 Hours
Factors	52 Hours						
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	39.780.00 Dollars
Factors	39780 sub/c support						

Line Item 0300 - Site Restoration

BOE

Estimators Experience - Estimated costs are based on actual costs for revegetating the Trench 1 site. See Cost Estimate for OU1 French Drain Decommissioning, April 11, 2000.

Site revegetation will involve seed application, raking, and mulch application on all disturbed areas at the project site.

Experience Item Desc - Trench 1
Breakdown of Cost Data:
Item - RFETS Labor
Units - Hours
Unit Cost - 24
Unit Cost Adjustment factor - None
Revised Unit Cost - None
Basis for adjustment - None
Item - Subontractor Costs
Units - lot
Unit Cost - \$4,563 sub/c

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750 STF	RAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	24.00	Hours
	Factors 2	24 hrs							
	A5H SUE	SCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	4.563.00	Dollars

Factors 4563 dollars sub/c

Revised Unit Cost - None Basis for adjustment - None

Activity ID: 1G0	FDR0040 Description: Prepare Closeout Report for		Cost Risk 3 Schedule Risk 3									
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	Develop Closeout Report	1.00	each	EE	104	104	2.844	1.260	0	4.104	1.369	5.473
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	175	175	0	175
	Tot	al for Activi	tv 1G0FDR0	0040		104	2 844	1 260	175	4 280	1 369	5 648

Line Item 0100 - Develop Closeout Report

BOE Estimator's Experience on similar projects. See Cost Estimate for OU1 French Drain Decommisioning, April 11, 2000.

WBS No: 1GAB0B04 Activity ID: 1G0FDR0040

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Baseline Devl 1GAB

Starts In FY *

Activity Filter Develop Closeout report, perform data analysis, if required, including GIS data and associated project management. Breakdown of Cost Data: Item: RFETS labor to develop documentation Units: hours Unit Cost: 104 Unit Cost Adjustment Factor: none Revised Unit Hours: None Basis for adjustment: None

Units - lot

Unit Cost - \$1,260 sub/c Revised Unit Cost - None Basis for adjustment - None

Item - Subontractor costs for CAD/GIS

Resources

es		Cost Element		Skill		Department	Curve	Quantity Units	S
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00 Hours	
	Factors	80 hrs							
	750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	4.00 Hours	
	Factors	4 Hours							
	750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	20.00 Hours	
	Factors	20 hrs							
	A5H	SUBCONTRACTED SRVS	P060	COMPUTER SYSTEMS ANALYSTS	K265S	ER Programs	Linear	420.00 Dollars	š
	Factors	6 dollars cad/gis		. 70 \$/hr					
	A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K265S	ER Programs	Linear	840.00 Dollars	š
	P	20 hrs		40 satimated C/hr					

Factors 20 estimated \$/hr

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element Skill			Department	Curve	Quantity	Units	
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	103.49	Dollars
	Factors	103.491 Dollars							
		ESCALATION	0000	NONE	ZDEPT	No Department	Linear	71.77	Dollars

Factors 71.7735 Dollars

Activity ID: 1G1CAD0101 Description: OU1 CAD/ROD Cost Risk 2 Schedule Risk 3

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	CAD/ROD TECHNICAL SUPPORT	1.00	each	EE	250	250	7.390	0	0	7.390	3.376	10.766
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	703	703	0	703
	Tot	Total for Activity 1G1CAD0101:						0	703	8.093	3.376	11.468

Line Item 0100 - CAD/ROD TECHNICAL SUPPORT

BOE

Estimators Experience - based generally on development of the OU3 CAD/ROD and FY00 OU1 CAD/ROD experience.

Experience Item Desc - Finalize amendment (Major Modification) to the OU1 CAD/ROD, Schedule Public presentation meeting and Public review/comment period, Hold Public Meeting, Hold Regulatory Agency/DOE meetings, Develop responses to Public comments, Publish Major Modification to OU1 CAD/ROD. Breakdown of Cost Data:

Item - Site labor to support development of the OU1 CAD/ROD.

Units - Hours Unit Cost - 250

Unit Cost Adjustment factor -

Revised Unit Cost -Basis for adjustment -

Reso

sources	Cost Element	Skill	Department	Curve	Ouantity Units]
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	250.00 Hours	_

Factors 250 HRS

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Baseline Devl Proiect WBS Filter 1GAB Activity Filter

Starts In FY

1G1CAD0101 Line Item SYS - Contingency And Escalation

1GAB0B04

BOE

WBS No:

Activity ID:

Resources	Cost Element	Skill	Department	Curve	Ouantity Units
	CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	434.53 Dollars
	Factors 434.533 Dollars				
	ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	268.27 Dollars

268,268 Dollars

WBS No: 1GAB	DB05 Title: Controls & Mitigating Mea	sures										
Activity ID: 1GC	Activity ID: 1GCMM05001 Description: Project Management - A5 Dam Cost Risk 1 Schedule Risk 1											
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0010	Project Management	1.00	each	HC	2.740	2.740	70.987	0	0	70.987	22.416	93.403
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	19.869	19.869	0	19.869
	Total for Activity 1GCMM05001:						70.987	0	19.869	90.856	22.416	113.273

Line Item 0010 - Project Management

BOE

The following basis of estimate provides a description of hours/dollars necessary to perform budget preparation and management for the entire WADlet. Hours and dollars budgeted for this ongoing activity item are based on actual values needed to perform same activities during FY98 and FY99. Full time Project management support is required based on other similar projects = 1820 hours

1/4 time secretarial and budget analyst support is required for a project of this size based on other similar projects.

Resources

es	Cost Element	Skill	Department	Curve	Quantity Units
	750 STRAIGHT TIME BASE	G010 ADMINISTRATIVE ASSISTANTS	R100S RMRS Salaried	Linear	460.00 Hours
1	Factors 460 hrs				
	750 STRAIGHT TIME BASE	M010 FOREMEN / TEAM LEADS / GROUP	R100S RMRS Salaried	Linear	1,820.00 Hours
	Factors 1820 hrs				
	750 STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNERS A	N R100S RMRS Salaried	Linear	460.00 Hours
	Factors 460 hrs				

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	11.876.09	Dollars
_	Factors	11876.1 Dollars							
L	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	7.993.39	Dollars

7993.39 Dollars Factors

ACTIVITY ID: TGC	Description: Prepare PAIVI & WORKING DO	Cost Risk 2 Schedule Risk 3										
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0100	PAM	1.00	each	EE	740	740	23.428	0	0	23.428	8.106	31.534
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8.830	8.830	0	8.830
	tal for Activ	ity 1GCMM0	5100:		740	23,428	0	8.830	32.258	8.106	40.364	

Line Item 0100 - PAM

Estimator's Experience based generally on historical data for Ryan's Pit BOE

Preparation of PAM in support of source removal of previously characterized UBC.

window. Dranara DAM 9 Marking Decuments. AF Dam

Breakdown of Cost Data:

Item: Preparation of PAM for Ryan's Pit source removal action modified to include GIS support.

Unit Cost: 40 hours GIS support, 72 hours project manager technical support, 628 hours for technical staff to write document.

Unit Cost Adjustment Factor: None

Revised Unit Hours: None

Basis for adjustment. None

Cont Dial

Caladala Diel

WBS No: 1GAB0B05 Baseline Devl Proiect **Rocky Flats Closure Project** 1GAB Activity ID: 1GCMM05100 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY Cost Element Resources Curve Department R100S RMRS Salaried E050 ENVIRONMENTAL ENGINEERS 628.00 Hours 750 STRAIGHT TIME BASE Linear 628 hrs 750 STRAIGHT TIME BASE M020 MANAGERS (GRADE 69 - 72) K253S Remediation, Industrial & Site Serv 72.00 Hours Linear 72 hrs 750 STRAIGHT TIME BASE P060 COMPUTER SYSTEMS ANALYSTS R100S RMRS Salaried 40.00 Hours Linear Factors 40 hrs Line Item SYS - Contingency And Escalation BOE Resources Cost Flement CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 6 412 05 Dollars 6412.05 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department 2.418.21 Dollars Linear 2418.21 Dollars Activity ID: 1GCMM05120 Description: PAM Document Revision - A5 Dam Cost Risk 2 Schedule Risk Labor Hours Labor Cost Total Prime Line Item Description BOELabor Materials/ Sub Contingency Burden Cost Total Cost **Quantity** Units Type Hours/Unit & Escalation 010 PAM revision 1.00 each FF 120 120 3.205 3.205 1.109 4.314 SYS Contingency And Escalation 1.00 ea FF 1.208 1.208 1.208 Λ 0 0 Total for Activity 1GCMM05120: 120 3.205 1.208 4.413 1.109 5.522 Line Item 010 - PAM revision Based on previous projects, minimal changes to the PAM will be required and will take approximately one week to resolve. BOE Two environmental engineers full time = 40 hours Secretarial support for reformatting, copying, and editing = 20 hours GIS support for redoing maps = 20 hours. Units Resources Cost Element STRAIGHT TIME BASE E050 ENVIRONMENTAL ENGINEERS R100S RMRS Salaried Linear 80.00 Hours 80 G010 ADMINISTRATIVE ASSISTANTS R100S RMRS Salaried STRAIGHT TIME BASE 20.00 Hours Linear 20 750 STRAIGHT TIME BASE P060 COMPUTER SYSTEMS ANALYSTS R100S RMRS Salaried Linear 20.00 Hours Factors 20 Line Item SYS - Contingency And Escalation BOE Resources Cost Element Skill Department Curve Units 877.18 Dollars CON CONTINGENCY 0000 NONE ZDEPT No Department Linear Factors 877.179 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department Linear 330.81 Dollars 330.815 Dollars Factors Activity ID: 1GCMM05150 Description: Biological Assessment - A5 Dam Cost Risk 4 Schedule Risk Units BOELabor Labor Hours Labor Cost Materials/ Sub Total Prime Burden Cost Total Cost Line Item Description Contingency Quantity TypeHours/Unit Cost & Escalation Cost HC 2.956 131.093 134.049 1.023 135.072 0010 Biological Assessment 1.00 each 100 100 0 FF SYS Contingency And Escalation 1.00 ea 0 0 38.619 38.619 0 38.619

Line Item 0010 - Biological Assessment

BOE

This task involves performing a Biological Assessment for the Pond A-5 Construction. This Biological Assessment must be reviewed by the regulators, which will issue a Biological Opinion.

100

2.956

100 Hours for R100S for task integration and oversight, issue resolution, and regulatory agency interface.

Total for Activity 1GCMM05150:

\$150,000 for a contractor to develop a Biological Assessment which addresses the cumulative effects, conditions forming the environmental baseline,

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131.093

38.619

172.668

1.023

173.691

WBS No: 1GAB0B05 Activity ID: 1GCMM05150

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

ilter 1GAB

Baseline Devl

evaluating potential ecological and sensitive habitat impacts. This cost was based on a conversation with Steve Nesta and Marcia Murdock.

\$5,000 for a Site Ecological contractor to assist in developing the Biological Assessment and to coordinate with the U.S. Fish and Wildlife Service on the species and habitat of concern.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element	Skill			Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	100.00	Hours
	Factors	100 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	126.864.00	Dollars
	Factors	150000 \$							
							0.84576 [SYS 06140	01 .84576000 - S	svstem
	A5H	SUBCONTRACTED SRVS	0000	NONE	K266S	Envir, Safety, Health & Quality	Linear	4.228.80	Dollars

Factors 5000 \$

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	28.261.47	Dollars
	Factors	28261.5 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	10.358.00	Dollars

Factors 10358 Dollars

Activity ID: 1GCMM05160 Description: Environmental Assessment - A5 Dam

Cost Risk 3 Schedule Risk 3

Addivity ID. 100	Description. Environmental recognition	/ to Dain						Cost Hisk	O Benedine 1	tisk 0		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0010	Environmental Assessment	1.00	each	HC	100	100	2,956	131,093	0	134,049	997	135,046
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	33,301	33,301	0	33,301
	Tot	Total for Activity 1GCMM				100	2.956	131.093	33.301	167.350	997	168.348

Line Item 0010 - Environmental Assessment

BOE

This task involves performing a Biological Assessment for the Pond A-5 Construction. This Biological Assessment must be reviewed by the regulators, which will issue a Biological Opinion.

100 Hours for R100S for task integration and oversight, issue resolution, and regulatory agency interface.

\$150,000 for a contractor to develop a Biological Assessment which addresses the cumulative effects, conditions forming the environmental baseline, evaluating potential ecological and sensitive habitat impacts. This cost was based on a conversation with Steve Nesta and Marcia Murdock.

\$5,000 for a Site Ecological contractor to assist in developing the Biological Assessment and to coordinate with the U.S. Fish and Wildlife Service on the species and habitat of concern.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	100.00	Hours
	Factors	100 hours							
Į	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Linear	4.228.80	Dollars
	Factors	5000 \$							

raciors 5000 \$

						0.84576 ISYS 06140	01.845/6000 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	126.864.00 Dollars
Factors	150000 \$						

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources	Cost Element	Skill	Department	Curve	Ouantity	Units

WBS No: 1GAB0B05 Baseline Devl Proiect **Rocky Flats Closure Project** Activity ID: 1GCMM05160 WBS Filter 1GAB **Baseline Cost and Basis of Estimate** Activity Filter CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 22595.8 Dollars

0000 NONE ZDEPT No Department ESC ESCALATION

Factors 10705.5 Dollars

Activity ID: 1GC	MMU5170 Description: Mitigation Measures							Cost Risk	4 Schedule R	isk 4		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
001	Mitigating Measure	1.00	each	EE	0	0	0	211,440	0	211.440	0	211.440
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	30.912	30.912	0	30.912
Total for Activity 1GCMM05170:						0	0	211.440	30.912	242.352	0	242.352

Line Item 001 - Mitigating Measure

BOE

Estimators Experience - Professional opinion of Steve Nesta, KH NEPA manager and expert. Based on his best guess of the measures required given that the dam will be constructed in areas of known Preble's Mouse habitat.

Experience Item Desc - Mitigating measures

Breakdown of Cost Data:

Item - 1 Units - each

Unit Cost - \$250,000

Unit Cost Adjustment factor - none

Revised Unit Cost -

Basis for adjustment -

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resourc

rces	es Cost Element Skill			Department	Curve	Quantity	Units		
	A5H	SUBCONTRACTED SRVS	0000	NONE	K253S	Remediation. Industrial & Site Serv	Linear	211.440.00	Dollars

250000 d Factors

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Starts In FY

Linear

22,595,78 Dollars

10.705.50 Dollars

Line Item SYS - Contingency And Escalation

BOE

rces

es	Cost Element	Skill	Department	Curve	Ouantity Units
	CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	10.610.42 Dollars
	Factors 10610.4 Dollars				
	ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	20.301.68 Dollars

Factors 20301.7 Dollars

Activity ID: 1GCMM05200

Description: Develop Title I & II Design - A5 Dam

2 Schedule Risk Cost Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
30	Perform Title I.II.III Design	1.00	Is	EE	480	480	13.442	141.742	0	155.184	4.651	159.834
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	44.757	44.757	0	44.757
	To	tal for Activi	ty 1GCMM0	5200:		480	13.442	141.742	44.757	199.941	4.651	204.591

Line Item 30 - Perform Title I,II,III Design

BOE

Item Desc - Title I, II, III Design

Breakdown of Historical Data:

Item - Title I,II,III Design -based on the design cost for the East Trenches Plume Project

Unit Cost - 167,000 dollars based on the OHM/Parson Subcontract 3 people 160 hours each for review, comment, site engineering interface to meet Site requirements, \$500 for copying and other supplies.

Unit Cost Adjustment factor -Revised Unit Cost - N/A Basis for adjustment - N/A

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Units Resources Cost Element Skill Department Curve **Ouantity**

WBS No: 1GAB0B05 Baseline Devl Proiect Rocky Flats Closure Project 1GCMM05200 1GAB Activity ID: WBS Filter **Baseline Cost and Basis of Estimate** Starts In FY 750 STRAIGHT TIME BASE E020 CIVIL ENGINEERS K253S Remediation, Industrial & Site Serv 160.00 Hours Linear 160 hours E050 ENVIRONMENTAL ENGINEERS R100S RMRS Salaried 750 STRAIGHT TIME BASE Linear 320.00 Hours 320 hours A5C SUPPLIES 0000 NONE K253S Remediation, Industrial & Site Serv Linear 500.00 Dollars 500 Dollars/Is Factors P050 COMPLIANCE INSPECTORS A5H SUBCONTRACTED SRVS K253S Remediation, Industrial & Site Serv Linear 141.241.90 Dollars 167000 subc support Factors 0.84576 [SYS 061400] .84576000 - System Line Item SYS - Contingency And Escalation BOE Resources Cost Element Skill Department Curve **Ouantity** Units 32.500.14 Dollars CON CONTINGENCY 0000 NONE ZDEPT No Department Linear Factors 32500.1 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department 12.256.94 Dollars Linear 12256.9 Dollars Activity ID: 1GCMM05250 Description: Procurement Contractor Selection - A5 Dam Cost Risk 1 Schedule Risk Materials/ Sub | Contingency Line Item Description Units BOELabor Labor Hours Labor Cost Total Prime Burden Cost Total Cost **Ouantity** Hours/Unit & Escalation TypeTotal Total Cost 0100 Procurement/Contractor Selection 1.00 each EE 480 480 13.250 13.250 4.584 17.834 SYS Contingency And Escalation 1.00 ea FF 0 4.944 4.944 4.944 480 13.250 Total for Activity 1GCMM05250: 4.944 18.194 4.584 22.778 Line Item 0100 - Procurement/Contractor Selection This activity involves the project bid phase to subcontract construction of the A-5 daum at Indiana Street. This activity includes issuing the Bidding BOE Requirements, Contract Forms, Conditions of the Contract, and Specifications for the sediment removal project. 160 Hours for statement of work preparation, review of bids, conducting Site walkdown for prospective bidders, and integrating Health and Safety requirements into the Bid Package. It was assumed that only one Procurement/Contractor Selection activity would be required. 160 Hours for Engineering construction requirements interpretation, bid technical review, identification of construction specification requirements, providing numerous copies of Contract Drawings, and review/approval of Design drawings. 160 hours for Procurement to issue bid notices, provide construction requirements interpretation, received bid cost review, providing numerous copies of Contract Bid Packages, conducting prospective bidders conference, review and approval of Contract Award, and performance of contract addenda and revisions. Cost Element Resources Curve 750 STRAIGHT TIME BASE E020 CIVIL ENGINEERS R100S RMRS Salaried Linear 160.00 Hours Factors 160 hrs E050 ENVIRONMENTAL ENGINEERS R100S RMRS Salaried 160.00 Hours 750 STRAIGHT TIME BASE Linear 160 K216S Subcontracts Management 160.00 Hours 750 STRAIGHT TIME BASE P030 BUYERS PROCUREMENT AND CON Linear 160 hre Factors Line Item SYS - Contingency And Escalation BOE Resources Cost Element Department Curve Quantity Units CON CONTINGENCY 0000 NONE ZDEPT No Department Linear 3.576.81 Dollars

ZDEPT No Department

Labor Hours

Total

Labor

Hours/Unit

Factors 3576.81 Dollars
ESC ESCALATION

Factors 1367.60 Dollars

Activity ID: 1GCMM05260

Line Item

0000 NONE

Quantity

Units

BOE

Type

Description: Prepare Field Plans - A5 Dam

Description

Cost Risk

Materials/ Sub

Cost

Labor Cost

Total

Linear

2 Schedule Risk

Total Prime

Cost

Contingency

& Escalation

1.367.60 Dollars

Burden Cost

Total Cost

WBS No: 1GAB0B05 Activity ID: 1GCMM05260

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB

		<u> </u>		u 20010 01 20	tiiiiato	Acti	vity Filter *		Sto	rts In FY *	
0025	Health and Safety Plan	1.00 each	HC	50	50	1.684	6.089	0	7.773	583	8.356
0050	Field Implementation Plan	1.00 each	HC	60	60	2.251	14.716	0	16.968	779	17.747
SYS	Contingency And Escalation	1.00 ea	EE	0	0	0	0	7.309	7.309	0	7.309
		Total for Activity 1GCM	M05260:		110	3.935	20.806	7.309	32.050	1.362	33.412

Line Item 0025 - Health and Safety Plan

BOE

The subcontractor working on the A-5 dam project must develop a Health and Safety Plan acceptable to the Site. This task will be performed by subcontract personnel with Site input.

Historical Data Source - Successful subcontract bid for the East Trenches Plume project.

Breakdown of Historical Data: Item - health and safety plan

Units - 1

Unit Cost - \$7,200 (from successful bidder)

Unit Cost Adjustment factor - none

Revised Unit Cost -Basis for adjustment -

40 hours IH support and 10 hours rad engineer support are required based on previous experience with the East Trenches Plume Project.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	10.00	Hours
	Factors								
	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 hrs							
		SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	6.089.47	Dollars

Factors 7200 d

0.84576 [SYS 061400] .84576000 - System

Line Item 0050 - Field Implementation Plan

BOE

The Field Implementation Plan will delineate the placement of any soil stockpile, the rip-rap stockpile, and will identify the disposition process for any accumulated water. This activity will develop the Plan for construction of the A-5 dam.

Historical Data Source - Successful Bid for East Trenches Plume Project

Item Desc - Field Implementation Plan

Breakdown of Historical Data:

Item - FIP Units - 1

Unit Cost - \$17,400 based on the subcontract bid.

Unit Cost Adjustment factor - none

Revised Unit Cost -Basis for adjustment -

40 hours environmental engineer and 20 hours project management support for document reviews, issue resolution will be required based on the East Trenches Plume project.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element		Skill		Department	Curve	Quantity Units
L	750 STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00 Hours
I	Factors 40 h						
L	750 STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	R100S	RMRS Salaried	Linear	20.00 Hours
1	Factors 20 hrs						
L	A5H SUBCONTRACTED SR	/S 0000	NONE	K265S	ER Programs	Linear	14.716.22 Dollars

Factors 17400 d

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources Cost Element Skill Department Curve Quantity Units
--

 WBS No:
 1GAB0B05
 Rockv Flats Closure Project
 Project
 Baseline Devi

 Activity ID:
 1GCMM05260
 Baseline Cost and Basis of Estimate
 WBS Filter Activity Filter *
 **

		Activity I	Filter *	Starts In FY *
CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	5.307.64 Dollars
Factors 5307.64 Dollars				
ESC ESCALATION	OOOO NONE	ZDEDT No Doportment	Lincor	2 001 70 Dollars

Factors 2001.7 Dollars

Activity ID: 1GC	Description: Readiness Assessment - As	Dam						Cost Risk	1 Schedule K	isk 1		
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
0010	Readiness Assessment/IWCP	1.00	each	НС	140	140	4.440	23.258	0	27.698	1.536	29.234
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	8.105	8.105	0	8.105
	Tot	al for Activ	ity 1GCMM0)5270·		140	4 440	23 258	8 105	35 803	1 536	37 339

Line Item 0010 - Readiness Assessment/IWCP

BOE

This task involves developing an Integrated Work Control Package for the field activities, and training subcontract workers.

Hours are included for task integration and oversight, documentation development, and issue resolution for the readiness assessment.

\$27,500 for contractor to assist in developing the IWCP, perform pre-job evolutions, make notifications per IWCP and obtain Site-specific worker training. This amount is from the successful bidder for the East Trenches Plume project

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

S Cost Element		Skill		Department	Curve	Quantity	Units
750 STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00	Hours
Factors 80 Hrs							
750 STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	20.00	Hours
Factors 20 h							
750 STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	20.00	Hours
Factors 20 h							
750 STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	20.00	Hours
Factors 20 h							
A5H SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	23.258.40	Dollars
E							

Factors 27500 \$

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	5.863.23	Dollars
	Factors	5863.24 Dollars							
ĺ	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	2.241.82	Dollars

Factors 2241.83 Dollars

Activity ID: 1GCMM05280 Description: Field Preparation - A5 Dam	Cost Risk	1	Schedule Risk	1
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Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
010	Site Preparation	1.00	each	HC	180	180	4.976	13.617	0	18.593	1.548	20.141
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	4.141	4.141	0	4.141
	Tot	al for Activi	ty 1GCMM0	5280		180	4 976	13 617	4 141	22 733	1 548	24 281

Line Item 010 - Site Preparation

BOE

Historical Data Source - Field preparation and mobilization costs were derived from the East Trenches Plume Project.

Item Desc -

Breakdown of Historical Data:

Item - Subcontract Bid was \$16,100 to mobilize personnel to the Site.

Based on the East Trenches Plume Project, support includes a fulltime RCT, 2 fulltime project engineer support personnel, 1 fulltime project manager and a halftime health and safety support.

Units - dollars/hours

Unit Cost - \$16,100/ 40 hours RCT support, 80 hours Env. Eng, 40 hours project management and 20 hours health and safety support

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WBS No: 1GAB0B05 Activity ID: 1GCMM05280

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

Unit Cost Adjustment factor - none

Revised Unit Cost -Basis for adjustment -

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element		Skill		Department	Curve	Ouantity Units		
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00 Hours		
Facto	rs 80 h			,					
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Linear	40.00 Hours		
Facto	rs 40 h			,					
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Linear	20.00 Hours		
Facto	rs 20 h			,					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KG10H	Remediation Steelworkers	Linear	40.00 Hours		
Facto	rs 40 h		_	1					
A5I	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	13.616.74 Dollars		
	and the second s								

Factors 16100 d

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

Line Item

es		Cost Element		Skill		Department	Curve	Quantity	Units
	CON CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	2,385.35 Dollars	
j	Factors	2385.35 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1,755.34	Dollars

Factors 1755.34 Dollars

Activity ID: 1GCMM05290

Description: Construction - A5 Dam

Cost Risk 4 Schedule Risk

Risk 4

Description	Quantity	Units	BOE	Labor	Labor Hours		Materials/ Sub	0 2	Total Prime	Burden Cost	Total Cost
			Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
Construction	1.00	each	TP	2,430	2,430	72,986	4,382,294	0	4,455,280	20,582	4,475,862
Site Restoration	1.00	each	VQ	170	170	4,862	17,507	0	22,369	1,371	23,740
Contingency And Escalation	1.00	ea	EE	0	0	0	0	657.833	657.833	0	657.833
Tota	ty 1GCMM0	5290:		2.600	77.848	4.399.801	657.833	5.135.482	21.953	5.157.435	

Line Item 0030 - Construction

BOE

0030

0040 SYS

Construction subcontract cost from "Source Control Alternatives Analysis: Phase 1 Report, Predecisional Draft" RF/RMRS-98-271.UN September 1998

As quoted on Alternative 6 page 1, Detention Pond is estimated at \$5,181,486. Backup is provided in the report.

Based on similar projects such as the plumes remedial actions, oversight requirements are two full time field supervisors 120 days * 9 * 2 = 2,160 hours 1/4 time Site health and safety support = 120 * 9 * .25% = 270 hours

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

ces	Cost Element		Skill			Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE		E050 ENVIRONMENTAL ENGINEERS		R100S	RMRS Salaried	Linear	2,160.00 H	Hours
	Factors	2160 hrs							
	750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K253S	Remediation, Industrial & Site Serv	Linear	270.00 H	Hours
	Factors	270 hrs							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K253S	Remediation, Industrial & Site Serv	Linear	4,382,294.00	Dollars

Factors 5181486 dollars

0.84576 [SYS 061400] .84576000 - System

Line Item 0040 - Site Restoration

BOE

Site Restoration involves the below key activities:

- 1) Contractor demobilization
- 2) Regrading and Revegetation

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Rocky Flats Closure Project Baseline Cost and Basis of Estimate Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Starts In FY *

Vendor Name - OHM, successful bidder on East Trenches Plume Project Vendor Quote - 20,700 for demobilization and revegetation/regrading Quote Received by - A. Primrose

Date Received - 10/6/98

Item being quoted - demobilization, regrade and revegetation

Other Info -Availability -

1GAB0B05

1GCMM05290

Site support fo r project - 60 hours civil engineer, 80 hours env. Scientist, 30 hours other professional

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

WBS No:

Activity ID:

es		Cost Element		Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E020	CIVIL ENGINEERS	R100S	RMRS Salaried	Linear	60.00 Hours
	Factors	60 hrs						
Į	750	STRAIGHT TIME BASE	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	30.00 Hours
	Factors	30 hrs						
Į	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	80.00 Hours
	Factors	80 hrs						
Į	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	17.507.23 Dollars

Factors 20700 \$

0.84576 [SYS 061400] .84576000 - System

Line Item SYS - Contingency And Escalation

BOE

Resources

es		Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	225,797.80	Dollars
_	Factors	225798 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	432,035.00	Dollars

432035 Dollars

Activity ID: 1GCMM05295

Description: Closeout Report- A5 Dam

Cost Risk 1 Schedule Risk

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
100	Prepare Closure Report	1.00	ea	EE	160	160	4.730	0	0	4.730	1.334	6.063
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	866	866	0	866
	Tot	al for Activit	y 1GCMM05	5295:		160	4.730	0	866	5.595	1.334	6.929

Line Item 100 - Prepare Closure Report

BOE

Item Desc - Project Closure Report

Breakdown of Historical Data: Based on similar reports for construction projects.

Item - Project Closure Report

Units - lot

Unit Cost - 160 hours

Unit Cost Adjustment factor - N/A

Revised Unit Cost - N/A

Basis for adjustment - N/A

Resources

es		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	160.00	Hours
	Factors	160 Hours							

Line Item SYS - Contingency And Escalation

BOE

Resource

rces		Cost Element		Skill		Department	Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	283.59	Dollars
	Factors	283.589 Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	582.18	Dollars
	Factors	582.18 Dollars							

Rocky Flats Closure Project Baseline Cost and Basis of Estimate Proiect WBS Filter Activity Filter

Baseline Devl 1GAB

Starts In FY

WBS No: 1GAB0B06 Reactive Barrier Systems Monitoring & Ma Activity ID: 1GAB0B0610 Description: EM-50 Passive Reactive Barrier Plume Sampling Cost Risk 1 Schedule Risk Line Item Description **Ouantity** BOELabor Labor Hours Labor Cost Materials/ Sub Contingency Total Prime Burden Cost Total Cost Hours/Unit & Escalation Type **Total Total** Cost Cost 10 Additional Monitoring/Reporting 1.00 each 160 160 8.552 77.014 85.566 14.434 100.000 Total for Activity 1GAB0B0610: 160 8.552 77.014 85.566 14.434 100.000

Line Item 10 - Additional Monitoring/Reporting

1GAB0B06

1GAB0B0610

BOE

WBS No:

Activity ID:

Item Desc: Sampling requirements were derived from conversations with Leslie Dunstan RMRS SW Sampling coordinator, and Steve Singer, RMRS GW Monitoring Manager

Breakdown of Cost Data: Item: Analytical Services Units: Dollars Unit Cost: 35k

Unit Cost Adjustment Factor: Revised Unit Hours: n/a

Breakdown of Cost Data: Item: Monitoring Services Units: Dollars Unit Cost: 35k Unit Cost Adjustment Factor:

Revised Unit Hours: n/a

160 hours are required to attend meetings, prepare additional reports and graphics, interface with other Sites and prepare presentations.

Two trips at \$7014 are required.

Resources

es	Cost Element			Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M020	MO20 MANAGERS (GRADE 69 - 72) K25		Remediation, Industrial & Site Serv	Linear	160.00 Hours	
F	actors	160 PM hours							
	A5H	SUBCONTRACTED SRVS	0000	NONE	K253S	Remediation, Industrial & Site Serv	Linear	70,000.00	Dollars
F	actors	70000 dollars							
	A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K253S	Remediation, Industrial & Site Serv	Linear	7,014.00	Dollars

Factors 7014 Travel

WBS No: 1GAB	OC02 Title: Buffer Zone ROD(s) - (Inter	im/Final R	OD)									
Activity ID: 1GF	R000010 Description: Develop Interim Final CAD/F	ROD Scope	!					Cost Risk	4 Schedule R	risk 3		
Line Item	Line Item Description				Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
011	Develop Scope	1.00	each	EE	1.500	1.500	51.525	114.757	0	166.282	24.577	190.859
SYS Contingency And Escalation			1.00 ea		0	0	0	0	10.394	10.394	0	10.394
	Tot	al for Activi	ty 1GFR0000	010:		1.500	51.525	114.757	10.394	176.676	24.577	201.253

Line Item 011 - Develop Scope

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site characterization and dispositioning.

Experience Item Desc - Develop scope for interim CAD/ROD, meet with agencies, develop annotated outline for CAD/ROD. Breakdown of Cost Data:

Item - Labor, subcontract dollars, supplies, and travel to support development of the interim CAD/ROD.

Units - lot

Unit Cost -Site hours:1500 Subcontract dollars:\$136680 Travel to meetings: \$1000

Document production Supplies: \$1000

Unit Cost Adjustment factor -None Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Units Cost Element **Ouantity** Resources Department Curve

WBS No: 1GAB0C02 1GFR000010 Activity ID:

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Activity ID:	1GFR000010	Baseline Cost	and Basis of Estimate	
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	K260S Site Operations	x Filter * Starts In FY * Linear 240.00 Hours
	Factors 240 Hours	1 Nick Demos		
	750 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	K281S Building 771 Closure Project	Linear 240.00 Hours
	Factors 240 hours	1 D&D		
	750 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	K311S D&D Program	Linear 240.00 Hours
	Factors 240 hours	1 D&D		
	750 STRAIGHT TIME BASE	M040 MANAGERS (GRADE 64 - 68)	K253S Remediation, Industrial & Site Serv	Linear 40.00 Hours
	Factors 40 Hours	1 Steve Singer		
	750 STRAIGHT TIME BASE	M040 MANAGERS (GRADE 64 - 68)	K265S ER Programs	Linear 100.00 Hours
	Factors 100 Hours			
	750 STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear 240.00 Hours
	Factors 240 Hours	1 Rick Roberts		
	750 STRAIGHT TIME BASE	S090 OTHER SCIENTISTS	R100S RMRS Salaried	Linear 160.00 Hours
	Factors 160 Hours	1 B.Fiehwea		
	750 STRAIGHT TIME BASE	S090 OTHER SCIENTISTS	R100S RMRS Salaried	Linear 240.00 Hours
	Factors 240 Hours	1 Win Chromec	T I	
	A5C SUPPLIES	0000 NONE	K265S ER Programs	Linear 1.000.00 Dollars
	Factors 1000 Dollars	Document Production Su		
	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear 4.059.65 Dollars
	Factors 80 Hours	60 \$/Hr facilitator		0.04570 [0]/0.004400] 0.4570000 0.4
	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	0.84576
		80 \$/hr Susan Serrez	K2005 JER Programs	Linear 16,236.59[D0ilars
	Factors 240 Hours	50 \$/ni Susan Seriez		0.84576 [SYS 061400] .84576000 - System
	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear 32,477.18 Dollars
	Factors 480 Hours	80 \$/hr senior technical supp		Lilleal 32,477.10jD0ilaiS
	raciors 400 Hours	ου φ/π senior technical supp	Joil	0.84576 [SYS 061400] .84576000 - System
	A5H SUBCONTRACTED SRVS	E110 QUALITY CONTROL ENGINEERS	K265S ER Programs	Linear 10,149.12 Dollars
	Factors 240 Hours	50 \$/Hr S. Luker	N2000 ERT Toquanis	Eineai 10, 143. 12]Dollars
	ruciors 240 Hours	ου φ/τη ο. Editor		0.84576 [SYS 061400] .84576000 - System
	A5H SUBCONTRACTED SRVS	G010 ADMINISTRATIVE ASSISTANTS	K265S ER Programs	Linear 12.178.94 Dollars
	Factors 480 Hours	30 \$/Hr	THE STATE OF THE S	
	1 40.075	9 /111		0.84576 [SYS 061400] .84576000 - System
	A5H SUBCONTRACTED SRVS	P060 COMPUTER SYSTEMS ANALYSTS	K265S ER Programs	Linear 14.208.77 Dollars
	Factors 240 Hours	70 \$/Hr Data analysis		
				0.84576 ISYS 0614001 .84576000 - System
	A5H SUBCONTRACTED SRVS	P060 COMPUTER SYSTEMS ANALYSTS	K267S Analytical Laboratory Services	Linear 3.552.19 Dollars
	Factors 60 Hours	70 \$/hr W. Cheeks		
				0.84576 [SYS 061400] .84576000 - System
	A5H SUBCONTRACTED SRVS	P060 COMPUTER SYSTEMS ANALYSTS	K267S Analytical Laboratory Services	Linear 14.208.77 Dollars
	Factors 240 Hours	70 \$/hr GIS		
				0.84576 [SYS 061400] .84576000 - System
	A5H SUBCONTRACTED SRVS	P070 COST ESTIMATORS PLANNERS A	N K265S ER Programs	Linear 1.420.88 Dollars
	Factors 40 Hours	42 \$/hr A. Horn		
				0.84576 ISYS 0614001 .84576000 - System
	A5H SUBCONTRACTED SRVS	P160 TECHNICAL WRITERS AND EDITO	R K265S ER Programs	Linear 4.262.63 Dollars
	Factors 120 Hours	42 \$/hr		
				0.84576 ISYS 0614001 .84576000 - System
	A5M TRAVEL/TRAIN/RELOCAT	0000 NONE	K265S ER Programs	Linear 1.000.00 Dollars
	Factors 1000 Dollars	Travel		
	S - Contingency And Escalation			
BOE				
Resource	S Cost Element	Skill	Department	Curve Quantity Units

 WBS No:
 1GAB0C02
 Rockv Flats Closure Project
 Project
 Baseline Devi

 Activity ID:
 1GFR000010
 Baseline Cost and Basis of Estimate
 WBS Filter Activity Filter
 1GAB

		Daseille Cost alla Dasis di Estillate	ctivity Filter *	Starts In FY *
CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	6.380.74 Dollars
Factors 6380.74 Dollars				
ESC. ESCALATION	0000 NONE	ZDEPT No Department	Linear	4 013 33 Dollars

Factors 4013.34 Dollars

Activity ID: 1GFR000030 Description: Procurement of Interim CAD/ROD Subcontract Cost Risk 1 Schedule Risk 2

Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours		Materials/ Sub	0 2	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
031	write statement of work	1.00	each	EE	165	165	5.623	5.785	0	11.408	2.682	14.090
032	Procurement of subcontracted services	1.00	each	EE	115	115	3.924	16.315	0	20.239	1.872	22.111
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.919	1.919	0	1.919
	Tot	al for Activi	tv 1GFR000	030:		280	9.548	22.100	1.919	33.567	4.554	38.121

Line Item 031 - write statement of work

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site characterization and dispositioning.

Experience Item Desc - Develop SOW for technical support for Interim CAD/ROD.

Breakdown of Cost Data:

Item - Labor and subcontract dollars to support writing SOW for procurment of the technical assistance for production of Interim CAD/ROD.

Units - lo

Unit Cost -Site hours:165 Subcontract dollars:\$6840

Unit Cost Adjustment factor -none

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K265S	ER Programs	Linear	15.00 H	Hours
Fc	actors	15 Hours							
	750	STRAIGHT TIME BASE	P030	BUYERS PROCUREMENT AND CON	K264S	Procurement Systems	Linear	30.00 H	Hours
Fc	actors	30 Hours							
	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	60.00 H	Hours
Fc	actors	60 Hours		1 R. Roberts					
	750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	60.00 H	Hours
Fo	actors	60 Hours	,	1 W. Chromec	,	T.			
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	710.44	Dollars
Fa	actors	20 Hours		42 \$/hrA. Horn					
			,		,	T.	0.84576 [SYS 06140	0] .84576000 - S	ystem
	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	2,029.82	Dollars
Fa	actors	30 Hours		80 \$/hr S. Serrez					
_							0.84576 [SYS 06140	01 .84576000 - S	ystem
	A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	K265S	ER Programs	Linear	3,044.74	Dollars
Fc	ictors	120 Hours		30 \$/hr					

Line Item 032 - Procurement of subcontracted services

0.84576 [SYS 061400] .84576000 - System

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site characterization and dispositioning.

Experience Item Desc - Develop SOW for technical support for Interim CAD/ROD.

Breakdown of Cost Data:

Item - Labor and subcontract dollars to support writing SOW for procurment of the technical assistance for production of Interim CAD/ROD.

Units - lot

Unit Cost -Site hours:115 Subcontract dollars:\$19290

Unit Cost Adjustment factor -none

Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

 Resources
 Cost Element
 Skill
 Department
 Curve
 Quantity
 Units

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WBS No: Activity ID:	1GAB0C02 1GFR000030					Closure nd Basis o	Proiect f Estimate	WE		Baseline Devl 1GAB *	St	arts In FY *	
	750 STRAIGHT TIME BASE	M040 MAN	AGERS (GRA	ADE 64 - 68)		K265S E	R Programs	740		Linear		15.00 Hours	S
	Factors 15 Hours					1400.40						40.00	
	750 STRAIGHT TIME BASE Factors 40 Hours	I P030 IBUY	ERS PROCU	REMENT AN	ND CON	K264S P	rocurement Svst	ems		Linear		40.00 Hours	S
	750 STRAIGHT TIME BASE	S090 OTH	ER SCIENTIS	STS		R100S R	MRS Salaried			Linear		60.00 Hours	S
	Factors 60 Hours	1	W. Chr	omec		T							
	A5H SUBCONTRACTED SRVS	0000 NON					R Programs			Linear		4.059.65 Dolla	rs
	Factors 60 Hours	80	\$/hr se	nior technica	al suppor	t				0.04570 (0)/0	2 004 4001 04	570000 Ct	
	A5H SUBCONTRACTED SRVS	GO10 ADM	INISTRATIVE	ASSISTAN	TS	K265S F	R Programs			0.84576_1518 Linear		576000 - Svster 11.367.01 Dolla	
	Factors 448 Hours	30		. / (00101/ (1)		TVZ000 IL	IX I TOGICATIO			Lincal		11.507.01100114	13
										0.84576 [SYS	6 0614001 .84	576000 - Svster	m
	A5H SUBCONTRACTED SRVS		T ESTIMATO	RS PLANNE	ERS AN	K265S E	R Programs			Linear		888.05 Dolla	rs
	Factors 25 Hours	42	\$/Hr							0.04570 101/0	2 004 4001 04	-70000 O /	
l ino Itom SVS	S - Contingency And Escalation									0.84576 ISYS	6 0614001 .84	576000 - Syster	m
BOE	- Conungency And Escalation												
Resources	Cost Element		Skill				Depart	· · · · · · · · · · · · · · · · · · ·		Curve	0	uantity Un	24
Resources	CON CONTINGENCY	0000 NON	Ditti			ZDEPT N	o Department	тен		Linear		1.158.01 Dolla	
	Factors 1158.01 Dollars						o Dobartinont			Linoui		1.100.01100110	
	ESC ESCALATION	0000 NON	E			ZDEPT N	o Department			Linear		761.24 Dolla	rs
	Factors 761.237 Dollars												
Activity ID:	1GFR000040 Description: Develop	Draft Proposed	Plan			1			Cost Risk	3 Schedule Ri			
Line Item	Description		Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/Si	0 2	Total Prime	Burden Cost	Total Cost
41	Develop and write Draft Proposed Plan		1.0	0 each	Type EE	Hours/Uni		**Total	211.00	& Escalation 04 0	296.122	36.016	332.138
SYS	Contingency And Escalation			0 ea	EE	2.70	0 0	03.110	211.00	0 30.719	30.719		30.719
·	*		Total for Activ	vity 1GFR000	0040:	•	2.480	85.118	211.0	04 30.719	326.841	36.016	362.857
Line Item 41 -	Develop and write Draft Proposed Plan												
BOE	Estimators Experience - Based on 12	years estir	mator's exp	perience i	in scor	ing, budg	eting, and C	ERCLA (Supe	erfund) si	te characteriz	zation and	disposition	ning.
	Experience Item Desc - Write and progreadown of Cost Data: Item - Labor, subcontract dollars, Units - lot Unit Cost -Site hours:2480 Subcontrict Cost Adjustment factor -none Revised Unit Cost - none Basis for adjustment - none	and supplie	es to suppo	ort writin					Proposed P	lan.			
	This estimate includes a project pro	oductivity/	efficiency	factor fo	or comm	itted but	as yet unde	fined cost	reduction	s.			
Resources	Cost Element		Skill				Depart	tment		Curve	0	uantity Uni	its
	750 STRAIGHT TIME BASE	E050 ENV	RONMENTAL	LENGINEER	RS	K260S S	ite Operations			Linear		400.00 Hours	S
	Factors 400 Hours	1	N. Dem										
	750 STRAIGHT TIME BASE	E130 OTH	ER ENGINEE	RS		K311S D	&D Program			Linear		400.00 Hours	S
	Factors 400 Hours 750 STRAIGHT TIME BASE	E130 OTH	D&D ER ENGINEE	DC		K2119 D	&D Program			Linear		400.00 Hours	2
	Factors 400 Hours	1 130 10111	D&D	NO		NOTIO L	&D Flouralli			Lilleal		400.001110013	5
	750 STRAIGHT TIME BASE	M040 MAN	AGERS (GRA	ADE 64 - 68)		K265S E	R Programs			Linear		200.00 Hours	S
	Factors 200 Hours												
	750 STRAIGHT TIME BASE	M040 MAN	AGERS (GRA			R100S R	MRS Salaried			Linear		80.00 Hours	S
	Factors 80 Hours 750 STRAIGHT TIME BASE	1 P080 HEA	S. Sind			B1008 D	MRS Salaried			Linear		400.00 Hours	•
	Factors 400 Hours	<u> P080 HEA</u> 1	R. Rob			KIUUS K	INIKO SAIAITIED			Linear		400.00jHours	>
	, went 100 Hould		11. 1100	V. 10					*			*	

WBS No: Activity ID:	1GAB0C 1GFR000							Closure P		WB		aseline Devl GAB		Starts In FY *	
	750 S	TRAIGH	T TIME BASE	S090	OTHER	SCIENTISTS		R100S RMI	RS Salaried	7400		Linear		200.00 Hour	S
	Factors	200	Hours		1	B. Fiehwea							· · · · · · · · · · · · · · · · · · ·		
	750 S	TRAIGH	T TIME BASE	S090	OTHER	SCIENTISTS		R100S RMI	RS Salaried			Linear		400.00 Hour	s
	Factors	400	Hours	_	_	W. Chromec		1						1	
	A5C S	UPPLIES		0000	NONE			K265S ER	Programs			Linear		2.000.00 Dolla	rs
	Factors	2000	Dollars			Document Production	n Supp								
			TRACTED SRVS	0000	NONE			K253S Ren	nediation. Indu	strial & Site Se	erv	Linear		4.228.80 Dolla	rs
	Factors	5000	\$			NEPA support						0.04550 (0)			
	A 511 G	LIBOON	EDA OTED ODVO	0000	NONE			K265S ER						4576000 - Svste	
			TRACTED SRVS	1 0000	NONE	C/I Ir to obnical augus	. mt	K265S ER	Programs			Linear		20.298.24 Dolla	rs
	Factors	400	Hours		60	\$/Hr technical suppo	т					0.04576 [6]	C 0614001 0	4576000 Systa	m
	A5H S	I IBCON	TRACTED SRVS	0000	NONE			K265S ER	Programs			Linear		4576000 - Svste 70.367.23 Dolla	
	Factors	1040	Hours	1 0000	80	\$/Hr senior technica	Leunnor		Tiouranis			Lilleai		70.307.23ID0IIa	13
	1 uctors	1040	Tiouis		00	Will Sellior technica	i Suppoi					0.84576 [SY	'S 0614001 8	4576000 - Svste	m
	A5H S	UBCON	TRACTED SRVS	0000	NONE			K265S ER	Programs			Linear		27.064.32 Dolla	rs
	Factors	400	Hours		80	\$/Hr S. Serrez									
												0.84576 [SY	'S 0614001.8	4576000 - Svste	m
	A5H S	UBCON	TRACTED SRVS	0000	NONE			K265S ER	Programs			Linear		4.059.65 Dolla	rs
	Factors	80	Hours		60	\$/Hr facilitator									
				_	_			1					'S 0614001.8	4576000 - Svste	
	A5H S		TRACTED SRVS	G010		STRATIVE ASSISTANT	S	K265S ER	Programs			Linear		26,387.71 Dolla	rs
	Factors	1040	Hours		30	\$/Hr									
					1			I I					<u>'S 061400] .8</u>	4576000 - Syste	
			TRACTED SRVS	P060		TER SYSTEMS ANALY	STS	K265S ER	Programs			Linear		17,760.96 Dolla	irs
	Factors	300	Hours		70	\$/Hr Data analysis						0.04576 [0]	C 064 4001 0	4570000 Custo	
	A5H S	I IDCON	TRACTED SRVS	P060	COMBIL	TER SYSTEMS ANALY	/CTC	V2679 Ano	lytical Laborato	on, Condoos		Linear	5 06 14001 .8	4,736.26 Dolla	
	Factors	80	Hours	F000	70	\$/hr W. Cheeks	1313	NZ073 Alla	IYIICAI LADUIAII	ory Services		Lilleai	I	4,730.201D011a	115
	ruciors	00	riodis		70	ψ/III VV. OHEEKS						0.84576 [SV	'S 0614001 8	4576000 - Syste	m
	A5H S	UBCON'	TRACTED SRVS	P060	COMPU	TER SYSTEMS ANALY	/STS	K267S Ana	lvtical Laborato	orv Services		Linear	0 001 1001 .0	17.760.96 Dolla	
	Factors	300	Hours		70	\$/hr GIS									
												0.84576 [SY	'S 0614001.8	4576000 - Svste	m
	A5H S	UBCON	TRACTED SRVS	P070	COST E	STIMATORS PLANNEI	RS AN	K265S ER	Programs			Linear		7.104.38 Dolla	rs
	Factors	200	Hours		42	\$/Hr A. Horn									
												0.84576 [SY	'S 0614001.8	4576000 - Svste	
			TRACTED SRVS	P160		CAL WRITERS AND E	DITOR	K265S ER	Programs			Linear		9.235.70 Dolla	rs
	Factors	260	Hours		42	\$/Hr									
		_										0.84576 ISY	'S 0614001.8	4576000 - Syste	m
Line Item SYS	- Conting	ency An	a Escalation												
BOE								1							
Resources			Cost Element		_	Skill			Depart	tment		Curve			its
	CON C			0000	NONE			ZDEPT No I	Department			Linear		20.092.39 Dolla	rs
	Factors		4 Dollars		1										
		SCALAT		0000	NONE			ZDEPT No I	Department			Linear		10.626.24 Dolla	rs
	Factors		2 Dollars												
Activity ID:	1GFR0001	10	Description: Revise [Oraft Prop	osed Plan						Cost Risk	3 Schedule I	Risk 4		1
Line Item			Description			Quantity Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cos
			-				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
101			OE Comments and Revise			1.00 each	EE	155	155		19.994		25.36		27.2
111			agency comments			1.00 each	EE	520	520	17.922	26.450				50.69
110	0		dution			1 00 acab		245	215	10 CE1	16.46	7 0	27 11	0 2760	20.0

EE

315

315

10.651

1.00 each

112

Comment resolution

16.467 Page 162 of 182 6/23/00 9:03:01 AM OFFICIAL USE ONLY

3.760

30.878

27.118

WBS No: 1GAB0C02 Baseline Devl Proiect Rocky Flats Closure Project 1GFR000110 WBS Filter Activity ID: 1GAB **Baseline Cost and Basis of Estimate** Activity Filter

		Daseline Cost and Dasis of						Starts In FY *			
113	Respond to DOE Comments and revise Proposed Plan	1.00 each	EE	95	95	3.313	15.477	0	18.791	1.170	19.960
114	Revise Draft Proposed Plan	1.00 each	EE	485	485	16.682	39.068	0	55.750	5.889	61.639
SYS	S Contingency And Escalation 1.00 ea EE 0						0	29.067	29.067	0	29.067
	Tot	1.570	53.937	117.456	29.067	200.460	19.040	219.499			

Line Item 101 - Respond to DOE Comments and Revise

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site characterization and dispositioning.

Experience Item Desc - Respond to DOE comments on draft Proposed plan, revise and produce draft Proposed Plan.

Breakdown of Cost Data:

Item - Labor and sucontract dollars to support responding to comments, revising and production production of draft Proposed Plan.

Units - lot

Unit Cost -Site hours: 155 Subcontract dollars:\$23640

Unit Cost Adjustment factor -none Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		C	ost Element			Skill		Department	Cu	irve	Ouantity	Units
	750	STRAIGHT	TIME BASE	E050	ENVIRONME	ENTAL ENGINEERS	R100S	RMRS Salaried	Lin	ear	20.00	Hours
F	actors	20	Hours			I. Demos						
	750	STRAIGHT	TIME BASE	E130	OTHER ENG	SINEERS	K311S	D&D Program	Lin	ear	20.00	Hours
F	actors	20	Hours			0&D						
	750	STRAIGHT	TIME BASE	E130	OTHER ENG	SINEERS	K311S	D&D Program	Lin	ear	20.00	Hours
F	actors	20	Hours			0&D						
	750	STRAIGHT	TIME BASE	M040	MANAGERS	(GRADE 64 - 68)	K265S	ER Programs	Lin	ear	15.00	Hours
F	actors	15	Hours		1							
L	750	STRAIGHT	TIME BASE	P080	HEALTH PH	YSICISTS	R100S	RMRS Salaried	Lin	ear	30.00	Hours
F	actors	30	Hours			R.Roberts		T				
	750	STRAIGHT	TIME BASE	S090	OTHER SCI	ENTISTS	R100S	RMRS Salaried	Lin	ear	30.00	Hours
F	actors	30	Hours			V. Chromec		T				
	750	STRAIGHT	TIME BASE	S090	OTHER SCI	ENTISTS	R100S	RMRS Salaried	Lin	ear	20.00	Hours
F	actors	20	Hours			3. Fiehwea						
	A5H		RACTED SRVS	0000	NONE		K265S	ER Programs	Lin	ear	10,825.73	Dollars
F	actors	160	Hours		80 \$	hr SeniorTech. Support						
					1					[SYS 061400]		
	A5H		RACTED SRVS	0000	NONE		K265S	ER Programs	Lin	ear	2,029.82	Dollars
F	actors	30	Hours		80 \$	/Hr senior technical support						
										[SYS 061400]		
	A5H		RACTED SRVS	E110	1-	ONTROL ENGINEERS	K265S	ER Programs	Lin	ear	355.22	Dollars
F	actors	10	Hours		42 \$	/HR S. Luker						
_					1			1		[SYS 061400]		
	A5H		RACTED SRVS	G010		ATIVE ASSISTANTS	K265S	ER Programs	Lin	ear	4.059.65	Dollars
F	actors	160	Hours		30 \$	5/hr						
					1					[SYS 061400]		
L	A5H		RACTED SRVS	P060			K253S	Remediation. Industrial & Site Serv	Lin	ear	1.480.08	Dollars
F	actors	25	Hours		70 \$	/hr GIS						
					T			T		[SYS 061400]		
	A5H		RACTED SRVS	P070		MATORS PLANNERS AN	K265S	ER Programs	Lin	ear	532.83	Dollars
F	actors	15	Hours		42 \$	/hr					_	
								T		[SYS 061400]		
	A5H		RACTED SRVS	P160		WRITERS AND EDITOR	K265S	ER Programs	Lin	ear	710.44	Dollars
F	actors	20	Hours		42 \$	/Hr						
									0.84576	[SYS 061400]	.84576000 - S	System

Line Item 111 - Response to Agency comments

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Rockv Flats Closure Project
Baseline Cost and Basis of Estimate Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site cvaracterization and dispositioning.

Experience Item Desc - Respond to agency comments on the draft Proposed Plan.

Breakdown of Cost Data:

Item - Labor, subcontract dollars, and supplies to support responding to agency comments on the draft Proposed Plan.

Units - lot

Unit Cost -Site hours: 520 Subcontract dollars: \$27100 Travel to Meetings: \$500

Document Production Supplies: \$1000

Unit Cost Adjustment factor -none Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

WBS No:

Activity ID:

STRAIGHTTIME BASE	s	Cost Element	Skill	Department	Curve	Ouantity Units
Trigon The Read Elia Other Rengineers Elia DAD	7	50 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	80.00 Hours
Bal Hours	Fac	tors 80 Hours				
STRAIGHT TIME BASE	7	50 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	K311S D&D Program	Linear	80.00 Hours
DAD	Fac	tors 80 Hours	D&D			
STRAIGHT TIME BASE	7	50 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	K311S D&D Program	Linear	80.00 Hours
Factors 40	Fac	tors 80 Hours	D&D			
Table Tabl	7	50 STRAIGHT TIME BASE	M040 MANAGERS (GRADE 64 - 68)	K265S ER Programs	Linear	40.00 Hours
Factors 80	Fac	tors 40 Hours				
Factors 80	7	50 STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear	80.00 Hours
Factors 80	Fac	tors 80 Hours				
Factors 80	7	50 STRAIGHT TIME BASE	S090 OTHER SCIENTISTS	R100S RMRS Salaried	Linear	80.00 Hours
Total STRAIGHT TIME BASE S.999 OTHER SCIENTISTS R.100S RMRS Salaried Linear R.0.00 Hours B. Fiehwen Linear 1.000.00 Dollars	Fac	tors 80 Hours				
A5C SUPPLIES 0000 NONE	7		S090 OTHER SCIENTISTS	R100S RMRS Salaried	Linear	80.00 Hours
A5C SUPPLIES 0000 NONE	Fac	tors 80 Hours	B. Fiehwea			
Ractors 1000				K265S ER Programs	Linear	1.000.00 Dollars
A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs						
Rectors 40 Hours 80 \$/Hr senior technical support 0.84576 ISYS 0614001.84576000 - System System				K265S ER Programs	Linear	2.706.43 Dollars
A5H SUBCONTRACTED SRVS D000 NONE K265S ER Programs Linear 10.825.73 Dollars						
A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs Linear 10.825.73 Dollars		10 1104.0	g, iii ddinar taariinaa dagga	•	0.84576 [SYS.061400	01 84576000 - System
Factors 160 Hours 80 \$/Hr senior technical support 0.84576 SYS 0614001 .84576000 - System	A	5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs		
A5H SUBCONTRACTED SRVS D000 NONE K265S ER Programs Linear 2.029.82 Dollars			80 \$/Hr senior technical suppor	rt		
A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs Linear 2.029.82 Dollars			***************************************		0.84576 [SYS 061400	01 .84576000 - System
Factors 40 Hours 60 \$/Hr technical support 0.84576 ISYS 0614001 .84576000 - System	A	5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs		
A5H SUBCONTRACTED SRVS E110 QUALITY CONTROL ENGINEERS K265S ER Programs Linear 1.420.88 Dollars				,		2(020102)2011010
A5H SUBCONTRACTED SRVS E110 QUALITY CONTROL ENGINEERS K265S ER Programs Linear 1.420.88 Dollars	1 00	10 1104.0	φ/ιπ tooimioar σαρροίτ		0.84576 [SYS.061400	01 84576000 - System
A5H SUBCONTRACTED SRVS P060 COMPUTER SYSTEMS ANALYSTS K253S Remediation. Industrial & Site Serv Linear L	A	5H SUBCONTRACTED SRVS	F110 QUALITY CONTROL ENGINEERS	K265S FR Programs		
A5H SUBCONTRACTED SRVS G010 ADMINISTRATIVE ASSISTANTS K265S ER Programs Linear 4.059.65 Dollars				1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		., .20.00 20
A5H SUBCONTRACTED SRVS G010 ADMINISTRATIVE ASSISTANTS K265S ER Programs Linear 4.059.65 Dollars Factors 160 Hours 30 \$/Hr \$/Incompared to the control of the contro	1 00	10 1104.0	Ψ,		0.84576 [SYS.061400	01 84576000 - System
A5H SUBCONTRACTED SRVS P060 COMPUTER SYSTEMS ANALYSTS K253S Remediation. Industrial & Site Serv Linear 1.776.10 Dollars	Α	5H SUBCONTRACTED SRVS	G010 ADMINISTRATIVE ASSISTANTS	K265S FR Programs		
A5H SUBCONTRACTED SRVS P060 COMPUTER SYSTEMS ANALYSTS K253S Remediation. Industrial & Site Serv Linear 1.776.10 Dollars						1100010010011010
A5H SUBCONTRACTED SRVS P060 COMPUTER SYSTEMS ANALYSTS K253S Remediation. Industrial & Site Serv Linear 1.776.10 Dollars Factors 30 Hours 70 \$/hr GIS A5H SUBCONTRACTED SRVS P070 COST ESTIMATORS PLANNERS AN K265S ER Programs Linear 710.44 Dollars Factors 20 Hours 42 \$/hr A5H SUBCONTRACTED SRVS P160 TECHNICAL WRITERS AND EDITOR K265S ER Programs Linear 1.420.88 Dollars Factors 40 Hours 42 \$/Hr	1 tic	iors route	00 W/III		0.84576 [SYS.061400	01 84576000 - System
No. Factors 30 Hours 70 Shr GIS 0.84576 ISYS 0614001 .84576000 - System	Α	5H SUBCONTRACTED SRVS	P060 COMPLITER SYSTEMS ANALYSTS	K253S Remediation Industrial & Site Serv		
A5H SUBCONTRACTED SRVS P070 COST ESTIMATORS PLANNERS AN K265S ER Programs Linear 710.44 Dollars				TEOO TOTOMICHOTI. ITIMOMICI & ONO COLV	Elitodi	1.170.1012011010
A5H SUBCONTRACTED SRVS P070 COST ESTIMATORS PLANNERS AN K265S ER Programs Linear 710.44 Dollars Factors 20 Hours 42 \$/hr 0.84576 ISYS 0614001.84576000 - \$vstem A5H SUBCONTRACTED SRVS P160 TECHNICAL WRITERS AND EDITOR K265S ER Programs Linear 1.420.88 Dollars Factors 40 Hours 42 \$/Hr	1 tit	iors of Hours	70 4/11 313		0.84576 ISVS 061400	01 84576000 - System
Factors 20 Hours 42 \$\frac{1}{2}\text{F} <	Δ	5H SUBCONTRACTED SRVS	POZO COST ESTIMATORS PLANNERS AN	K265S ER Programs		
A5H SUBCONTRACTED SRVS P160 TECHNICAL WRITERS AND EDITOR K265S ER Programs Linear 1.420.88 Dollars Factors 40 Hours 42 \$/Hr				TECOS IETT IOGICINO	Lincal	7 TO.TTIDOIIGIS
A5H SUBCONTRACTED SRVS P160 TECHNICAL WRITERS AND EDITOR K265S ER Programs Linear 1.420.88 Dollars Factors 40 Hours 42 \$/Hr	ıuı	20 Hours	τ ∠ Ψ/111		0.84576 [SVS.061400	01 84576000 - System
<i>Factors</i> 40 Hours 42 \$/Hr	Δ	5H SUBCONTRACTED SRVS	P160 TECHNICAL WRITERS AND EDITOR	K265S ER Programs		
- - +				1 12000 IEIX I IOUIGIIIS	Lilicai	1.720.0010011013
0.04976 - 1313 - 0.01400 - 0.04970000 - 3491611 - 0.04970000 - 3491611 - 0.04970000 - 3491611 - 0.04970000 - 3491611	ruc	1013 TO HOUIS	42 Ø/III		0.84576 [SVS.061400	01 84576000 - Systom
	-				0.04370 1313 061400	UI .07010000 - 3V3(EIII

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WBS No: 1GAB0C02 Rockv Flats Closure Proiect Proiect Activity ID: 1GFR000110 Rockv Flats Closure Proiect Baseline Cost and Basis of Estimate Proiect WBS Filter Activity Filter *

A5M TRAVEL/TRAIN/RELOCAT 0000 NONE K265S ER Programs Linear 500.00 Dollars

Factors 500 Dollars Travel to meetings

Line Item 112 - Comment resolution

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site cvaracterization and dispositioning.

Experience Item Desc - Comment-Response resolution for agency comments on the draft Proposed Plan.

Breakdown of Cost Data:

Item - Labor and subcontract dollars to support comment-response resolution for agency comments on the draft Proposed Plan.

Units - lot

Unit Cost -Site hours: 315 Subcontract dollars:\$19470

Unit Cost Adjustment factor -none Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s		Cost Element		Skill		Department	Curve	<i>Ouantity</i>	Units
	750	STRAIGHT TIME BASE	E050 E	NVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	60.00	Hours
ıč	Factors	60 Hours		N. Demos					
L	750	STRAIGHT TIME BASE	E130 O	THER ENGINEERS	K311S	D&D Program	Linear	60.00	Hours
ıč	Factors	60 Hours		D&D					
	750	STRAIGHT TIME BASE	E130 O	THER ENGINEERS	K311S	D&D Program	Linear	60.00	Hours
ıč	Factors	60 Hours		D&D					
L	750	STRAIGHT TIME BASE	M040 M	IANAGERS (GRADE 64 - 68)	K265S	ER Programs	Linear	15.00	Hours
ř	Factors	15 Hours							
L	750	STRAIGHT TIME BASE	P080 H	EALTH PHYSICISTS	R100S	RMRS Salaried	Linear	60.00	Hours
ĺĖ	Factors	60 Hours		R. Roberts		T			
L	750	STRAIGHT TIME BASE	S090 O	THER SCIENTISTS	R100S	RMRS Salaried	Linear	60.00	Hours
Ē	Factors	60 Hours		W. Chromec		T			
	A5H	SUBCONTRACTED SRVS		IONE	K265S	ER Programs	Linear	3.044.74	Dollars
	Factors	60 Hours		60 \$/Hr facilitator					
Г						1	0.84576 [SYS 061400		
L	A5H	SUBCONTRACTED SRVS		IONE		ER Programs	Linear	5.412.86	Dollars
	Factors	80 Hours		80 \$/Hr senior technical support					_
Г		T					0.84576 [SYS 061400		
L	A5H	SUBCONTRACTED SRVS		QUALITY CONTROL ENGINEERS	K265S	ER Programs	Linear	1,065.66	Dollars
	Factors	30 Hours		42 \$/Hr S. Luker					
ſĒ						T	0.84576 [SYS 061400		
L	A5H	SUBCONTRACTED SRVS		DMINISTRATIVE ASSISTANTS	K265S	ER Programs	Linear	2,029.82	Dollars
	Factors	80 Hours		30 \$/hr					
Г		0.1000117040770 001/0	B000 0		1/0=00	D	0.84576 [SYS 061400		
L	A5H	SUBCONTRACTED SRVS		COMPUTER SYSTEMS ANALYSTS	K253S	Remediation, Industrial & Site Serv	Linear	888.05	Dollars
	Factors	15 Hours		70 \$/Hr W. Cheeks			0.04570 10\/0.00440/	01.04570000 0	S
ſ	A5H	SUBCONTRACTED SRVS	P060 C	COMPUTER SYSTEMS ANALYSTS	KOEOO	Remediation. Industrial & Site Serv	0.84576 [SYS 061400 Linear	1.776.10	
L				70 \$/Hr GIS	N2535	Remediation, Industrial & Site Serv	Linear	1.776.101	Dollars
	Factors	30 Hours		70 5/HI GIS			0.84576 [SYS 061400	01.04570000 6) ratam
ſ	A5H	SUBCONTRACTED SRVS	P060 C	COMPUTER SYSTEMS ANALYSTS	K2659	ER Programs	U.04376 1313 001400 Linear	1.184.06	
L	Factors			70 \$/HrData Analysis	NZUJJ	LIX FIOGRAMS	Lilledi	1.104.001	Dullais
	raciors	20 Hours		70 9/11/Data Arialysis			0.84576 [SYS 061400	1 84576000 - 9	Svetom
ſ	A5H	SUBCONTRACTED SRVS	P070 C	COST ESTIMATORS PLANNERS AN	K265S	ER Programs	Linear		Dollars
L	Factors	20 Hours		42 \$/Hr		TEXT TOGISTIO	Lincal	7 10.441	
	i aciors	20 110013		- Ψ/1 II			0.84576 [SYS 061400	1 84576000 - 9	System
	A5H	SUBCONTRACTED SRVS	P160 T	ECHNICAL WRITERS AND EDITOR	K265S	FR Programs	Linear		Dollars
L	Factors			42 \$/hr		THE CONTRACTOR OF THE CONTRACT		000.221	
		10 110010		12 W/111			0.84576 [SYS 061400	01 84576000 - 9	System
_							0.01010 010 001700	71.01070000 €	77010111

Starts In FY

WBS No: 1GAB0C02 Activity ID: 1GFR000110

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect Baseline Devl WBS Filter 1GAB Activity Filter *

Starts In FY *

Line Item 113 - Respond to DOE Comments and revise Proposed Plan

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site cvaracterization and dispositioning.

Experience Item Desc - Response to DOE comments, resolve, and revise draft Proposed Plan.

Breakdown of Cost Data:

Item - Labor and subcontract dollars to response to DOE comments, resolve, and revise the draft Proposed Plan.

Units - lo

Unit Cost -Site hours: 95 Subcontract dollars:\$18300

Unit Cost Adjustment factor -none

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element	Skill	Department	Curve	Ouantity Units
750	STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	10.00 Hours
Factors	10 Hours	N. Demos	T	T	
750	STRAIGHT TIME BASE	E130 OTHER ENGINEERS	K311S D&D Program	Linear	10.00 Hours
Factors	10 Hours	D&D	T	T	
750	STRAIGHT TIME BASE	E130 OTHER ENGINEERS	K311S D&D Program	Linear	10.00 Hours
Factors	10 Hours	D&D			,
750	STRAIGHT TIME BASE	M040 MANAGERS (GRADE 64 - 68)	K265S ER Programs	Linear	15.00 Hours
Factors	15 Hours				T
750	STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear	20.00 Hours
Factors	20 Hours	R.Roberts		Т	
750	STRAIGHT TIME BASE	S090 OTHER SCIENTISTS	R100S RMRS Salaried	Linear	20.00 Hours
Factors	20 Hours	W. Chromec		Т	
750	STRAIGHT TIME BASE	S090 OTHER SCIENTISTS	R100S RMRS Salaried	Linear	10.00 Hours
Factors	10 110410	B. Fiehwea			T 1
A5H	SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	8.119.30 Dollars
Factors	120 Hours	80 \$/hr SeniorTech. Support			
				0.84576 [SYS 06140	
A5H	SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	1.353.22 Dollars
Factors	20 Hours	80 \$/Hr senior technical suppor	rt		
_		T T		0.84576 [SYS 06140	
A5H	SUBCONTRACTED SRVS	E110 QUALITY CONTROL ENGINEERS	K265S ER Programs	Linear	355.22 Dollars
Factors	10 Hours	42 \$/HR S. Luker			
_		T T		0.84576 [SYS 06140	
A5H	SUBCONTRACTED SRVS	G010 ADMINISTRATIVE ASSISTANTS	K265S ER Programs	Linear	3,044.74 Dollars
Factors	120 Hours	30 \$/hr			
		1		0.84576 [SYS 06140	
A5H	SUBCONTRACTED SRVS	P060 COMPUTER SYSTEMS ANALYSTS	K253S Remediation, Industrial & Site Serv	Linear	1,184.06 Dollars
Factors	20 Hours	70 \$/hr GIS			
		T T		0.84576 [SYS 06140	
A5H	SUBCONTRACTED SRVS	P070 COST ESTIMATORS PLANNERS AN	K265S ER Programs	Linear	355.22 Dollars
Factors	10 Hours	42 \$/hr			
		T L		0.84576 [SYS 06140	
A5H	SUBCONTRACTED SRVS	P160 TECHNICAL WRITERS AND EDITOR	K265S ER Programs	Linear	1.065.66 Dollars
Factors	30 Hours	42 \$/Hr			
				0.84576 [SYS 06140	01 .84576000 - System

Line Item 114 - Revise Draft Proposed Plan

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site cvaracterization and dispositioning.

Experience Item Desc - Incorporate response resolution and revise draft Proposed Plan.

Breakdown of Cost Data:

Item - Labor, subcontract dollars, and supplies to support incorporating response resolution and to revise the draft Proposed Plan.

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WBS No: 1GAB0C02 *Activity ID:* 1GFR000110

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect WBS Filter Activity Filter Baseline Devl 1GAB

Starts In FY *

Units - lot

Unit Cost -Site hours: 485 Subcontract dollars:\$43,540 Document Production Supplies: \$1000

Unit Cost Adjustment factor -none Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

								_			
s		Cost Element			Skill		Department	Curve		Ouantity	Units
75	0 STRAIGH	T TIME BASE	E050	ENVIRON	MENTAL ENGINEERS	R100S	RMRS Salaried	Linea	ır	80.00	Hours
Facto	ors 80	Hours			N. Demos						
75	0 STRAIGH	T TIME BASE	F130	OTHER EN	IGINEERS	K311S	D&D Program	Linea	ır	60.00	Hours
Facto		Hours			D&D		TE SEE I TO SIGNI				
		T TIME BASE	E400	OTHER EN		1/0440	D&D Program	Line		80.00	Harris
75			I E130	IOTHER EN		K3115	D&D Program	Linea		80.001	Hours
Facto		Hours			D&D						
75	0 STRAIGH	T TIME BASE	M040	MANAGER	S (GRADE 64 - 68)	K265S	ER Programs	Linea	ır	25.00	Hours
Facto	ors 25	Hours									
75	0 STRAIGH	T TIME BASE	P080	HEALTH P	HYSICISTS	R100S	RMRS Salaried	Linea	ır	80.00	Hours
Facto		Hours			R. Roberts						
75		T TIME BASE	2000	OTHER SC		D4000	RMRS Salaried	Linea		80.00	Llaura
			5090	IOTHER SC		K1005	RIVIRS Salaried	Linea		80.001	nouis
Facto		Hours			W. Chromec						
75	0 STRAIGH	T TIME BASE	S090	OTHER SC	CIENTISTS	R100S	RMRS Salaried	Linea	ır	80.00	Hours
Facto	ors 80	Hours			B. Fiehwea						
A50	C SUPPLIES		0000	NONE		K265S	ER Programs	Linea	ır	1.000.00	Dollars
Facto		Dollars								.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
A5		TRACTED SRVS	0000	NONE		MOCEC	ER Programs	Linea		5,412.86	Dellara
			0000		*	N2000	ER Plograms	Linea		5,412.00	Dollars
Facto	ors 80	Hours		80	\$/Hr senior technical support						
								0.84576 [<u>SYS 061400</u>	<u> 1 .84576000 - Ş</u>	System
A5	H SUBCON	TRACTED SRVS	0000	NONE		K265S	ER Programs	Linea	ır	9,472.51	Dollars
Facto	ors 140	Hours		80	\$/Hr senior technical support						
					*			0.84576	SYS 061400	<u>) .84576000 - Ş</u>	System
A5	H STIBCON	TRACTED SRVS	0000	NONE		Vaces	ER Programs	Linea		4.059.65	
			0000		^ #1	N2000	ER Flograms	Lillea	<u> </u>	4,059.05	Dollars
Facto	ors 80	Hours		60	\$/Hr technical support						
			1							1 .84576000 - S	
A5	H SUBCON	TRACTED SRVS	E110	QUALITY (CONTROL ENGINEERS	K265S	ER Programs	Linea	d .	1.420.88	Dollars
Facto	ors 40	Hour		42	\$/Hr S. Luker						
								0.84576	SYS 061400	1 .84576000 - 9	System
A5	H STIBCON	TRACTED SRVS	G010	ADMINIST	RATIVE ASSISTANTS	Vaces	ER Programs	Linea		3.552.19	
			GUIU			N2000	ER FIOUIAIIIS	Lillea		3.332.191	Dollars
Facto	ors 140	Hours		30	\$/Hr						_
			1)1 .84576000 - Ş	
A5	H SUBCON	TRACTED SRVS	P060	COMPUTE	R SYSTEMS ANALYSTS	K109S	Env Svs. Stewardship & Compliance	Linea	ır	5.920.32	Dollars
Facto	ors 100	Hours		70	\$/hr GIS						
								0.84576	SYS 061400	1 .84576000 - \$	System
A5	H SLIBCON	TRACTED SRVS	P060	COMPLITE	R SYSTEMS ANALYSTS	K2539	Remediation. Industrial & Site Serv	Linea		1.184.06	
			FUUU			112000	inemediation, industrial & Site Serv	Lillea		1.104.001	Dullais
Facto	ors 20	hours		70	\$/hr W.Cheeks						
			1)1 .84576000 - S	
A5	H SUBCON	TRACTED SRVS	P060	COMPUTE	R SYSTEMS ANALYSTS	K265S	ER Programs	Linea	ır	4.736.26	Dollars
Facto	ors 80	Hours		70	\$/Hr Data Analysis						
								0.84576	SYS 061400	1 .84576000 - \$	System
A5	H SUBCON	TRACTED SRVS	P070	COST EST	IMATORS PLANNERS AN	K265S	ER Programs	Linea		1.065.66	
			I FUIU			112000	ILIV I IOUIAIIIS	Lillea		1.005.001	Dullais
Facto	ors 30	Hours		42	\$/hr P&I						
			1							1 .84576000 - \$	
A5	H SUBCON	TRACTED SRVS	P160			K265S	ER Programs	Linea	ır	1,243.27	Dollars
Facto	ors 35	Hours		42	\$/Hr						
								0.84576	SYS 061400	1 .84576000 - 9	System
								0.0.0.0		,	. , 5.0

WBS No: 1GAB0C02 1GFR000110 Activity ID:

Rocky Flats Closure Project Baseline Cost and Basis of Estimate

Baseline Devl Proiect WBS Filter 1GAB Activity Filter

Starts In FY

Line Item SYS - Contingency And Escalation

BOE

Resources	Resources Cost Element		Skill	Department	Curve	Ouantity	Units
	CON CONTINGENCY		NONE	ZDEPT No Department	Linear	20.168.19	Dollars
ŗ	Factors 20168.2 Dollars						
	ESC ESCALATION	0000	NONE	ZDEPT No Department	Linear	8.899.16	Dollars
	D						

8899.16 Dollars

Activity ID: 1GF	R000170 Description: Prepare Summary & Dft Fn	Cost Risk 3 Schedule Risk 4										
Line Item	Description	Quantity	Units	BOE	Labor	Labor Hours	Labor Cost	Materials/ Sub	Contingency	Total Prime	Burden Cost	Total Cost
				Type	Hours/Unit	Total	Total	Cost	& Escalation	Cost		
120	Agency review/resolution mtgs	1.00	each		260	260	8.961	26.769	0	35.730	3.114	38.844
130	Public mtgs and comments	1.00	each		430	430	14.815	52.777	0	67.592	5.148	72.741
171	Prep. Drft Fnl PP Responsivenes Sum.	1.00	each		520	520	17.866	58.755	0	76.621	6.209	82.830
172	Response to DOE Comments	1.00	each		95	95	3.313	15.477	0	18.791	1.151	19.942
173	Produce Dft Fnl PP Responsivenes Sum	1.00	each		50	50	1.858	5.271	0	7.129	646	7.774
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	52.119	52.119	0	52.119
	1.355	46.812	159.050	52.119	257.981	16.268	274.250					

Line Item 120 - Agency review/resolution mtgs

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site cvaracterization and dispositioning.

Experience Item Desc - Respond to agency comments and meet with agency personnel to resolve comment on the draft Proposed Plan.

Breakdown of Cost Data:

Item - Labor, subcontract dollars, and travel to support responding to and resolving agency comments on the draft Proposed Plan.

Units - lot

Unit Cost -Site hours: 260 Subcontract dollars: \$31060 Travel to Meetings: \$500

Unit Cost Adjustment factor -none

Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
L	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00 Hc	ours
r	Factors	40 Hours		N. Demos					
L	750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K311S	D&D Program	Linear	40.00 Ho	ours
	Factors	40 Hours		D&D					
Į.	750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K311S	D&D Program	Linear	40.00 Ho	ours
r	Factors	40 Hours		D&D					
Ĺ	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K265S	ER Programs	Linear	20.00 Ho	ours
Ē	Factors	20 Hours		,					
L	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	40.00 Ho	ours
Г	Factors	40 Hours		R. Roberts					
L	750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	40.00 Ho	ours
Г	Factors	40 Hours		W. Chromec					
L	750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	40.00 Ho	ours
r	Factors	40 Hours		B. Fiehwea					
L	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	2.029.82 Do	ollars
	Factors	40 Hours		60 \$/Hr facilitator					
Г		T					0.84576 [SYS 061400]		
L	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	10.825.73 Do	ollars
	Factors	160 Hours		80 \$/Hr senior technical support					
Г		T					0.84576 [SYS 061400]		
ļ	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	2.029.82 Do	ollars
	Factors	40 Hours		60 \$/Hr technical support					
							0.84576 [SYS 061400]	1.84576000 - Svs	stem

 WBS No:
 1GAB0C02
 Rocky Flats Closure Project
 Project WBS Filter
 Baseline Devl GAB

 Activity ID:
 1GFR000170
 Baseline Cost and Basis of Estimate
 WBS Filter Activity Filter
 1GAB

		Activity Filte	r * Starts In FY *
A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear 2.706.43 Dollars
Factors 40 Hours	80 \$/Hr senior technical suppo	rt	
			0.84576 [SYS 061400] .84576000 - System
A5H SUBCONTRACTED SRVS	G010 ADMINISTRATIVE ASSISTANTS	K265S ER Programs	Linear 4.059.65 Dollars
Factors 160 Hours	30 \$/Hr		
			0.84576 [SYS 061400] .84576000 - System
A5H SUBCONTRACTED SRVS	P060 COMPUTER SYSTEMS ANALYSTS	K253S Remediation. Industrial & Site Serv	Linear 1.776.10 Dollars
Factors 30 Hours	70 \$/Hr GIS		
			0.84576 [SYS 061400] .84576000 - System
A5H SUBCONTRACTED SRVS	P070 COST ESTIMATORS PLANNERS AN	K265S ER Programs	Linear 1,420.88 Dollars
Factors 40 Hours	42 \$/hr P&I		
			0.84576 [SYS 061400] .84576000 - System
A5H SUBCONTRACTED SRVS	P160 TECHNICAL WRITERS AND EDITOR	K265S ER Programs	Linear 1,420.88 Dollars
Factors 40 Hours	42 \$/hr		
			0.84576 [SYS 061400] .84576000 - System
A5M TRAVEL/TRAIN/RELOCAT	0000 NONE	K265S ER Programs	Linear 500.00 Dollars
Factors 500 Dollars	Travel to Meetings		

Line Item 130 - Public mtgs and comments

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site characterization and dispositioning.

Experience Item Desc - Attend public meetings on the Proposed Plan in the surrounding communities and Respond to comments on the draft Proposed Plan. Breakdown of Cost Data:

Item - Labor and travel to support responding to agency comments on the draft Proposed Plan.

Units - lot

Unit Cost -Site hours: 430 Subcontract dollars: \$61220 Travel to Meetings: \$1000

Unit Cost Adjustment factor -none

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element			Skill		Department	Curve	Ouantity Units
	750	STRAIGHT TIME BASE	E050	ENVIRON	IMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00 Hours
1	Factors	80 Hours			N. Demos				
	750	STRAIGHT TIME BASE	E130	OTHER E	NGINEERS	K311S	D&D Program	Linear	80.00 Hours
1	Factors	80 Hours			D&D				
	750	STRAIGHT TIME BASE	M040	MANAGE	RS (GRADE 64 - 68)	K265S	ER Programs	Linear	30.00 Hours
1	Factors	30 Hours							
L	750	STRAIGHT TIME BASE	P080	HEALTH F	PHYSICISTS	R100S	RMRS Salaried	Linear	80.00 Hours
1	Factors	80 Hours			R. Roberts				
L	750	STRAIGHT TIME BASE	S090	OTHER S	CIENTISTS	R100S	RMRS Salaried	Linear	80.00 Hours
1	Factors	80 Hours			w. Chromec				
L	750	STRAIGHT TIME BASE	S090	OTHER S	CIENTISTS	R100S	RMRS Salaried	Linear	80.00 Hours
1	Factors	80 Hours		1	B. Fiehwea		1	Ti .	
L	A5H	SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs	Linear	18.945.02 Dollars
1	Factors	280 Hours		80	\$/hr				
_		Т		1			1	0.84576 [SYS 06140	01 .84576000 - Svstem
L	A5H	SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs	Linear	4.059.65 Dollars
1	Factors	80 Hours		60	\$/Hr technical support				
_		Т		1			1	0.84576 [SYS 06140	01 .84576000 - Svstem
L	A5H	SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs	Linear	5.412.86 Dollars
1	Factors	80 Hours		80	\$/Hr senior technical suppor	t			
_		Т		1			1	0.84576 [SYS 06140	01 .84576000 - Svstem
L	A5H	SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs	Linear	4.059.65 Dollars
1	Factors	80 Hours		60	\$/Hr facilitator				
								0.84576 [SYS 06140	01 .84576000 - Svstem

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 WBS No:
 1GAB0C02
 Rocky Flats Closure Project
 Project
 Baseline Devl

 Activity ID:
 1GFR000170
 Baseline Cost and Basis of Estimate
 WBS Filter
 1GAB

	Buscillic Gost al	na Basis of Estimate	Activity Filter *	Starts In FY *
A5H SUBCONTRACTED SRVS	G010 ADMINISTRATIVE ASSISTANTS	K265S ER Programs	Linear	7.104.38 Dollars
Factors 280 Hours	30 \$/Hr			
			0.84576 [SYS 0614	1001 .84576000 - Svstem
A5H SUBCONTRACTED SRVS	P060 COMPUTER SYSTEMS ANALYSTS	K109S Env Svs. Stewardship & Co	ompliance Linear	3.552.19 Dollars
Factors 60 Hours	70 \$/Hr GIS			
			0.84576 [SYS 0614	1001 .84576000 - Svstem
A5H SUBCONTRACTED SRVS	P060 COMPUTER SYSTEMS ANALYSTS	K253S Remediation. Industrial & S	Site Serv Linear	1.184.06 Dollars
Factors 20 Dollars	70 \$/ W. Cheeks			
			0.84576 [SYS 0614	1001 .84576000 - Svstem
A5H SUBCONTRACTED SRVS	P060 COMPUTER SYSTEMS ANALYSTS	K265S ER Programs	Linear	3.552.19 Dollars
Factors 60 Hours	70 \$/Hr Data Analysis			
			0.84576 [SYS 0614	1001 .84576000 - Svstem
A5H SUBCONTRACTED SRVS	P070 COST ESTIMATORS PLANNERS AN	K265S ER Programs	Linear	1.065.66 Dollars
Factors 30 Hours	42 \$/hr P&I			
			0.84576 [SYS 0614	1001 .84576000 - Svstem
A5H SUBCONTRACTED SRVS	P160 TECHNICAL WRITERS AND EDITOR	K265S ER Programs	Linear	2.841.75 Dollars
Factors 80 Hours	42 \$/hr			
			0.84576 ISYS 0614	1001 .84576000 - Svstem
A5M TRAVEL/TRAIN/RELOCAT	0000 NONE	K265S ER Programs	Linear	1.000.00 Dollars
Factors 1000 Dollars				

Factors 1000 Dollars

Line Item 171 - Prep. Drft Fnl PP Responsivenes Sum.

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site characterization and dispositioning.

Experience Item Desc - Respond to agency and stakeholder comments on the draft Proposed Plan and prepare Responsiveness Summary.

Breakdown of Cost Data:

Item - Labor to support responding comments on the draft Proposed Plan and preparing Responsiveness Summary.

Units - lot

Unit Cost -Site hours: 520 Subcontract dollars:\$69470

Unit Cost Adjustment factor -none

Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Quantity Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	100.00 Hours
_	Factors	100 Hours		N. Demos				
	750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K311S	D&D Program	Linear	100.00 Hours
ř	Factors	100 Hours		D&D				
L	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K265S	ER Programs	Linear	40.00 Hours
ŕ	Factors	40 Hours		T		1		
L	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	100.00 Hours
Г	Factors	100 Hours		R Roberts	ı			
L	750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	100.00 Hours
г	Factors	100 Hours		W. Chromec	1	T		
Ĺ	750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	80.00 Hours
r	Factors	80 Hours		B. Fiehwea	1			
Į	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	5.074.56 Dollars
	Factors	100 Hours		60 \$/Hr technical support				
							0.84576 [SYS 061400	01 .84576000 - Svstem
Į	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	5.412.86 Dollars
	Factors	80 Hours		80 \$/Hr senior technical suppor	t			
					,		0.84576 [SYS 061400	01 .84576000 - Svstem
L	A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	23.004.67 Dollars
	Factors	340 Hours		80 \$/Hr senior technical suppor	t			

1GAB0C02 WBS No: Baseline Devl Proiect **Rocky Flats Closure Project** 1GFR000170 1GAB Activity ID: WBS Filter **Baseline Cost and Basis of Estimate**

						Activity Filter	*	Starts In FY *
A5H	SUBCONTRACTED SRVS	E110	QUALIT	Y CONTROL ENGINEERS	K265S	ER Programs	Linear	1.420.88 Dollars
Factors	40 Hours		42	\$/Hr S Luker				
							0.84576 [SYS 06140	01 .84576000 - Svstem
A5H	SUBCONTRACTED SRVS	G010	ADMINIS	STRATIVE ASSISTANTS	K265S	ER Programs	Linear	8.626.75 Dollars
Factors	340 Hours		30	\$/Hr				
							0.84576 [SYS 06140	01 .84576000 - Svstem
A5H	SUBCONTRACTED SRVS	P060	COMPU [*]	TER SYSTEMS ANALYSTS	K253S	Remediation. Industrial & Site Serv	Linear	1.480.08 Dollars
Factors	25 Hours		70	\$/hr				
					,		0.84576 [SYS 06140	01 .84576000 - Svstem
A5H	SUBCONTRACTED SRVS	P060	COMPU [*]	TER SYSTEMS ANALYSTS	K253S	Remediation. Industrial & Site Serv	Linear	5.920.32 Dollars
Factors	100 Hours		70	\$/hr GIS				
							0.84576 [SYS 06140	01 .84576000 - Svstem
A5H	SUBCONTRACTED SRVS	P060	COMPU [*]	TER SYSTEMS ANALYSTS	K265S	ER Programs	Linear	3.552.19 Dollars
Factors	60 Hours		70	\$/hr Data Anal.				
							0.84576 [SYS 06140	01 .84576000 - Svstem
A5H	SUBCONTRACTED SRVS	P070	COST E	STIMATORS PLANNERS AN	K265S	ER Programs	Linear	1.420.88 Dollars
Factors	40 Hours		42	\$/hr				
							0.84576 [SYS 06140	01 .84576000 - Svstem
A5H	SUBCONTRACTED SRVS	P160	TECHNI	CAL WRITERS AND EDITOR	K265S	ER Programs	Linear	2.841.75 Dollars
Factors	80 Hours		42	\$/Hr				

Line Item 172 - Response to DOE Comments

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site characterization and dispositioning.

Experience Item Desc - Respond to DOE comments on the draft Proposed Plan and Responsiveness Summary.

Breakdown of Cost Data:

Item - Labor to support responding to DOE comments on the draft Proposed Plan and Responsiveness Summary.

Units - lot

Unit Cost -Site hours: 95 Subcontract dollars:\$18300

Unit Cost Adjustment factor -none

Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s	Cost Element		Skill		Department	Curve	Quantity Units
750	STRAIGHT TIME BASE	FOFO	ENVIRONMENTAL ENGINEERS	D4000	RMRS Salaried		
	•	EU3U		K1005	RIVIRS Salaried	Linear	10.00 Hours
Factors			N. Demos				
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K311S	D&D Program	Linear	10.00 Hours
Factors	10 Hours		D&D				
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K311S	D&D Program	Linear	10.00 Hours
Factors	10 Hours		D&D				
750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K265S	ER Programs	Linear	15.00 Hours
Factors	15 Hours						
750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	20.00 Hours
Factors	20 Hours		R.Roberts				
750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	20.00 Hours
Factors	20 Hours		W. Chromec				
750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	10.00 Hours
Factors	10 Hours		B. Fiehwea				
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	8.119.30 Dollars
Factors	120 Hours		80 \$/hr SeniorTech. Support				
						0.84576 [SYS 06140	01 .84576000 - Svstem
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	1.353.22 Dollars
Factors	20 Hours		80 \$/Hr senior technical suppor	t			

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0.84576 [SYS 061400] .84576000 - System

0.84576 [SYS 061400] .84576000 - System

]	A5H SUBCONTRACTED SRVS Factors 10 Hours A5H SUBCONTRACTED SRVS Factors 120 Hours A5H SUBCONTRACTED SRVS Factors 20 Hours A5H SUBCONTRACTED SRVS	42 G010 ADMINI: 30 P060 COMPU 70	STRATIVE ASSISTANTS \$/hr STER SYSTEMS ANALYSTS \$/hr GIS	K265S ER Programs K265S ER Programs	Linear 0.84576 ISYS 0614001 Linear	355.22 Dollars .84576000 - System 3.044.74 Dollars
]	Factors 10 Hours A5H SUBCONTRACTED SRVS Factors 120 Hours A5H SUBCONTRACTED SRVS Factors 20 Hours A5H SUBCONTRACTED SRVS	42 G010 ADMINI: 30 P060 COMPU 70	\$/HR S. Luker STRATIVE ASSISTANTS \$/hr JTER SYSTEMS ANALYSTS	K265S ER Programs	0.84576 [SYS 061400] Linear	.84576000 - Svstem
]	A5H SUBCONTRACTED SRVS Factors 120 Hours A5H SUBCONTRACTED SRVS Factors 20 Hours A5H SUBCONTRACTED SRVS	G010 ADMINI 30 P060 COMPU 70	STRATIVE ASSISTANTS \$/hr JTER SYSTEMS ANALYSTS		Linear	
]	Factors 120 Hours A5H SUBCONTRACTED SRVS Factors 20 Hours A5H SUBCONTRACTED SRVS	30 P060 COMPU 70	\$/hr		Linear	
]	Factors 120 Hours A5H SUBCONTRACTED SRVS Factors 20 Hours A5H SUBCONTRACTED SRVS	30 P060 COMPU 70	\$/hr			
]	A5H SUBCONTRACTED SRVS Factors 20 Hours A5H SUBCONTRACTED SRVS	P060 COMPU 70	JTER SYSTEMS ANALYSTS			
[Factors 20 Hours A5H SUBCONTRACTED SRVS	70			0.84576 [SYS 061400]	84576000 - System
[Factors 20 Hours A5H SUBCONTRACTED SRVS	70		K253S Remediation. Industrial & Site Serv	Linear	1.184.06 Dollars
[A5H SUBCONTRACTED SRVS			TALOGO ITOMOMICION. INGUSTICA ONO CON	1	1.101.0012011010
[0.84576 [SYS 061400]	.84576000 - System
Г		P070 COST E	STIMATORS PLANNERS AN	K265S ER Programs	Linear	355.22 Dollars
Г	Factors 10 Hours	42	\$/hr			
					0.84576 [SYS 061400]	.84576000 - Svstem
	A5H SUBCONTRACTED SRVS	P160 TECHN	ICAL WRITERS AND EDITOR	K265S ER Programs	Linear	1.065.66 Dollars
	Factors 30 Hours	42	\$/Hr			
					0.84576 [SYS 061400]	.84576000 - System
ne Item 173 -	- Produce Dft Fnl PP Responsivenes Sum					
		2 years estimat	or's experience in scor	ping, budgeting, and CERCLA (Superfund	l) site characterization a	and dispositioning.
	Experience Item Desc - Produce the Breakdown of Cost Data: Item - Labor and supplies to supp Units - lot Unit Cost -Site hours: 50 Subcon Unit Cost Adjustment factor -none Revised Unit Cost - none Basis for adjustment - none	ort incorporati	ing DOE comments and pro	oducing the Fraft Final Proposed Plan	and Responsiveness Summar	ry.
	This estimate includes a project p	roductivity/eff		nitted but as yet undefined cost reduc		
Resources			Skill	Department	Curve	Ouantity Units
Į	750 STRAIGHT TIME BASE	I_M040_IMANAG	SERS (GRADE 64 - 68)	K265S ER Programs	Linear	20.00 Hours
ſ	Factors 20 Hours			T = = T= =		
l	750 STRAIGHT TIME BASE	S090 OTHER	SCIENTISTS	R100S RMRS Salaried	Linear	30.00 Hours
ſ	Factors 30 Hours		W. Chromec			
l	A5C SUPPLIES	0000 NONE		K265S ER Programs	Linear	1,000.00 Dollars
[Factors 1000 Dollars		Document Production Suppl			4 044 04 5 11
l	A5H SUBCONTRACTED SRVS		STRATIVE ASSISTANTS	K265S ER Programs	Linear	1,014.91 Dollars
	Factors 40 Hours	30	\$/Hr		0.04570 (0)/0.0044001	0.4570000 0 4
ſ	A5H SUBCONTRACTED SRVS	P060 COMPU	JTER SYSTEMS ANALYSTS	KARRO Face State of the State of Committee o	0.84576 [SYS 061400]	2,368.13 Dollars
L		70 70		K109S Env Sys, Stewardship & Compliance	Linear	2,366. [3]D0lla18
	Factors 40 Hours	70	\$/hr		0.04576 [0.00.004.400]	0.4576000 Cyatam
				1/0050 ED D	0.84576 [SYS 061400] Linear	.84576000 - System 888.05 Dollars
Γ	ACIL CURCONTRACTER CRVC	DAGO TECUNI	ICAL MOITEDS AND EDITOR		linear	888 USIDONAIS
[A5H SUBCONTRACTED SRVS		ICAL WRITERS AND EDITOR	K265S IER Programs	Ellicai	OUTUUI DIIGIO
[A5H SUBCONTRACTED SRVS Factors 25 Hours	P160 TECHNI 42	ICAL WRITERS AND EDITOR \$/Hr	KZ65S ER Programs		<u> </u>
[K265S LEK Programs	0.84576 [SYS 061400]	<u> </u>
ne Item SYS	Factors 25 Hours			K265S ER Programs		<u> </u>
ne Item SYS BOE	Factors 25 Hours - Contingency And Escalation		\$/Hr		0.84576 [SYS 061400]	.84576000 - System
ne Item SYS BOE	Factors 25 Hours Contingency And Escalation Cost Element	42		Department	0.84576 [SYS 061400]	.84576000 - System Ouantity Units
ne Item SYS BOE Resources	Factors 25 Hours - Contingency And Escalation Cost Element CON CONTINGENCY		\$/Hr		0.84576 [SYS 061400]	.84576000 - System
ne Item SYS BOE Resources	Factors 25 Hours - Contingency And Escalation Cost Element CON CONTINGENCY Factors 36532.9 Dollars	42 0000 NONE	\$/Hr	Department ZDEPT No Department	0.84576	.84576000 - System <i>Ouantity Units</i> 36.532.93 Dollars
ne Item SYS BOE Resources	Factors 25 Hours Contingency And Escalation Cost Element CON CONTINGENCY Factors 36532.9 Dollars ESC ESCALATION	42	\$/Hr	Department	0.84576 [SYS 061400]	.84576000 - System Ouantity Units
ne Item SYS BOE Resources	### Contingency And Escalation Cost Element	42 0000 NONE	\$/Hr Skill	Department ZDEPT No Department ZDEPT No Department	0.84576 [SYS 061400]	.84576000 - System <i>Ouantity Units</i> 36.532.93 Dollars 15.586.03 Dollars
ne Item SYS BOE Resources	Factors 25 Hours Contingency And Escalation Cost Element CON CONTINGENCY Factors 36532.9 Dollars ESC ESCALATION Factors 15586.0 Dollars 1GFR000210 Description: Develop	42 0000 NONE	\$/Hr Skill	Department ZDEPT No Department ZDEPT No Department Cost R	0.84576 [SYS 061400]	.84576000 - System <i>Ouantity Units</i> 36.532.93 Dollars 15.586.03 Dollars

 WBS No:
 1GAB0C02
 Rockv Flats Closure Project
 Project
 Baseline Devl

 Activity ID:
 1GFR000210
 Baseline Cost and Basis of Estimate
 WBS Filter
 1GAB

					Acti	vity Filter *		Starts In FY *		
191	Drft Final PP agency Rev. mtgs.	1.00 each	160	160	5.509	14.261	0	19.770	1.906	21.676
201	Incorp. Comments and finalize Int. CAD/ROD PP	1.00 each	360	360	11.982	22.937	0	34.919	4.146	39.065
211	Develop Prelim, Drft Int, CAD/ROD	1.00 each	540	540	18.611	34.153	0	52.764	6.439	59.203
221	Internal Rev	1.00 each	110	110	3.796	10.217	0	14.013	1.313	15.326
231	Final Revision and production	1.00 each	240	240	8.300	14.700	0	23.000	2.872	25.872
241	Agency review mtas	1.00 each	215	215	7.407	16.333	0	23.740	2.563	26.303
SYS	Contingency And Escalation	1.00 ea EE	0	0	0	0	53.041	53.041	0	53.041
		1.625	55.606	112.600	53.041	221.247	19.240	240.487		

Line Item 191 - Drft Final PP agency Rev. mtgs.

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site characterization and dispositioning.

Experience Item Desc - Meetings with agencies to review Draft Final Proposed Plan and Responsiveness Summary explain any changes and comme to final agreement on Interim CAD/ROD - 3 meetings and support.

Breakdown of Cost Data:

Item - Labor and travel to support responding to DOE comments on the draft Proposed Plan and Responsiveness Summary.

Units - lot

Unit Cost -Site hours: 160 Subcontract dollars: \$16270 Travel for meetings: \$500

Unit Cost Adjustment factor -none

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

s		Cost Element		Skill		Department	Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050 EN	VIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	30.00	Hours
ř	Factors	30 Hours		N. Demos					
L	750	STRAIGHT TIME BASE	E130 OTI	HER ENGINEERS	K311S	D&D Program	Linear	30.00	Hours
ŕ	Factors	30 Hours	1	D&D					
L	750	STRAIGHT TIME BASE	M040 MA	NAGERS (GRADE 64 - 68)	K265S	ER Programs	Linear	10.00	Hours
Ē	Factors	10 Hours	ı						
L	750	STRAIGHT TIME BASE	P080 HE	ALTH PHYSICISTS	R100S	RMRS Salaried	Linear	30.00	Hours
ŕ	Factors	30 Hours	ı	R. Roberts					
L	750	STRAIGHT TIME BASE	S090 OTI	HER SCIENTISTS	R100S	RMRS Salaried	Linear	30.00	Hours
ſ	Factors	30 Hours		W. Chromec					
Ļ	750	STRAIGHT TIME BASE	S090 OTI	HER SCIENTISTS	R100S	RMRS Salaried	Linear	30.00	Hours
ſ	Factors	30 Hours		B. Fiehwea					
L	A5H	SUBCONTRACTED SRVS	0000 NO	•	K265S	ER Programs	Linear	1.522.37	Dollars
	Factors	30 Hours	60	0 \$/Hr facilitator			0.04570 (0)/0.00440/	1 04570000 6	
ſ	A 51.1	OLIDOONED A OTED ODVO	0000 NO	NIE.	1/0050	ER Programs	0.84576 ISYS 061400		
L	A5H	SUBCONTRACTED SRVS		• • •	K2655	ER Programs	Linear	5.412.86	Dollars
	Factors	80 Hours	80	0 \$/Hr senior technical support			0.84576 [SYS 061400	01.04576000 6	tom
ſ	A5H	SUBCONTRACTED SRVS	0000 NO	NE	Vaces	ER Programs	U.84576 1515 061400 Linear	1.522.37	
L	Factors	30 Hours	6000		N2033	ER Flouidilis	Lilledi	1.022.371	Dullais
	ruciors	30 Hours	00	b with technical support			0.84576 [SYS 061400	1 84576000 - 9	Svetem
	A5H	SUBCONTRACTED SRVS	0000 NO	NF	K265S	ER Programs	Linear	2.029.82	
L	Factors	30 Hours	80				Linoui	2.020.021	Dollaro
	1 461015	30 1.04.0	0.	c c, iii comer teermear capper			0.84576 [SYS 061400	01 .84576000 - S	System
	A5H	SUBCONTRACTED SRVS	G010 ADI	MINISTRATIVE ASSISTANTS	K265S	ER Programs	Linear	2.029.82	
_	Factors	80 Hours	30	0 \$/hr					
_							0.84576 ISYS 061400	1 .84576000 - 9	System
	A5H	SUBCONTRACTED SRVS	P070 CO	ST ESTIMATORS PLANNERS AN	K265S	ER Programs	Linear	532.83	
	Factors	15 Hours	42	2 \$/hr P&I					
_							0.84576 [SYS 061400)1 .84576000 - S	System

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Baseline Devl Proiect **Rocky Flats Closure Project** 1GAB WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter

A5H	SUBCONTRACTED SRVS	P160 TECHNICAL WRITERS AND EDITOR	K265S ER Programs	Linear	710.44 Dollars
Fastore	20 Hours	42 ¢/br			

0.84576 [SYS 061400] .84576000 - System 500.00 Dollars K265S ER Programs A5M TRAVEL/TRAIN/RELOCAT 0000 NONE

Factors 500 Dollars Travel to Meetings

Line Item 201 - Incorp. Comments and finalize Int. CAD/ROD PP

BOE

WBS No:

Activity ID:

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site dispositioning.

Experience Item Desc - Incorporate comments from agencies and finalize Interim CAD/ROD Proposed Plan and Responsiveness Summary.

Breakdown of Cost Data: Item - Labor to incorporate comments from agencies and finalize Interim CAD/ROD Proposed Plan and Responsiveness Summary.

Units - lot

1GAB0C02

1GFR000210

Unit Cost -Site hours: 360 Subcontract dollars:\$27120

Unit Cost Adjustment factor -none

Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

Cost Element	Skill	Department	Curve	Quantity Units
750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	60.00 Hours
Factors 60 Hours	N. Demos			
750 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	K311S D&D Program	Linear	60.00 Hours
Factors 60 Hours	D&D			
750 STRAIGHT TIME BASE	M040 MANAGERS (GRADE 64 - 68)	K265S ER Programs	Linear	20.00 Hours
Factors 20 Hours				
750 STRAIGHT TIME BASE	P070 COST ESTIMATORS PLANNERS AN	K265S ER Programs	Linear	60.00 Hours
Factors 60 Hours	P&I			
750 STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear	60.00 Hours
Factors 60 Hours	R. Roberts		1	
750 STRAIGHT TIME BASE	S090 OTHER SCIENTISTS	R100S RMRS Salaried	Linear	60.00 Hours
Factors 60 Hours	W. Chromec		1	
750 STRAIGHT TIME BASE	S090 OTHER SCIENTISTS	R100S RMRS Salaried	Linear	40.00 Hours
Factors 40 Hours	B. Fiehweg			
A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	8,119.30 Dollars
Factors 120 Hours	80 \$/Hr senior technical suppor	t		
			0.84576 [SYS 06140	
A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	2,029.82 Dollars
Factors 40 Hours	60 \$/Hr technical support			
A 51.1 OLUBOON TO A 6750 ODV 6	L coop lugue	1/00=0 ED D	0.84576 [SYS 06140	
A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	4,059.65 Dollars
Factors 60 Hours	80 \$/Hr S. Serrez		0.04570 (0)/0.00440	21 04570000 0 4
A5H SUBCONTRACTED SRVS	E110 QUALITY CONTROL ENGINEERS	K265S ER Programs	0.84576 [SYS 06140 Linear	710.44 Dollars
	42 \$/Hr S. Luker	K2005 ER PIOUIAITIS	Linear	710.44ID0IIars
Factors 20 Hour	42 3/HI 3. Lukei		0.84576 [SYS 06140	01 84576000 System
A5H SUBCONTRACTED SRVS	G010 ADMINISTRATIVE ASSISTANTS	K265S ER Programs	Linear	3.044.74 Dollars
Factors 120 Hours	30 \$/Hr	R2033 IER Flodianis	Lilleal	3.044.74ID0IIaIS
raciors 120 Hours	30 3/111		0.84576 [SYS 06140	01 84576000 - System
A5H SUBCONTRACTED SRVS	P060 COMPUTER SYSTEMS ANALYSTS	K109S Env Svs. Stewardship & Compliance	Linear	2.368.13 Dollars
Factors 40 Hours	70 \$/hr GIS	N1030 IETW 0V3. Oteward3hib & Combilance	Lincal	2.000.1010011013
10 Hours	70 9/11 010		0.84576 [SYS 06140	01 84576000 - System
A5H SUBCONTRACTED SRVS	P060 COMPUTER SYSTEMS ANALYSTS	K265S ER Programs	Linear	1.184.06 Dollars
Factors 20 Hours	70 \$/Hr Data Anal.		E1115501	111011001001010
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		0.84576 [SYS 06140	01 .84576000 - System

Starts In FY

WBS No: 1GAB0C02 Baseline Devl Proiect **Rocky Flats Closure Project** 1GFR000210 WBS Filter 1GAB Activity ID: **Baseline Cost and Basis of Estimate** Activity Filter

Starts In FY P160 TECHNICAL WRITERS AND EDITOR K265S ER Programs A5H SUBCONTRACTED SRVS 1.420.88 Dollars Linear

Factors 40 Hours

Line Item 211 - Develop Prelim. Drft Int. CAD/ROD

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site characterization and dispositioning.

Experience Item Desc - Develop the Preliminary Draft Interim CAD/ROD .

Item - Labor and supplies to Develop the Preliminary Draft Interim CAD/ROD.

Units - lot

Unit Cost -Site hours: 540 Subcontract dollars: \$39790 Document Production Supplies: \$500

Unit Cost Adjustment factor -none

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

3	Cost Element		Skill		Department	Curve	Ouantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	100.00 H	Hours
Factors	100 Hours		N. Demos					
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K311S	D&D Program	Linear	100.00 H	Hours
Factors	100 Hours		D&D					
750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	K265S	ER Programs	Linear	40.00 H	Hours
Factors	40 Hours							
750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	100.00 H	Hours
Factors	100 Hours		R. Roberts					
750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	100.00 H	Hours
Factors	100 Hours		W. Chromec		T.			
750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	100.00 H	Hours
Factors	100 Hours	1	B. Fiehwea	I				
A5C	SUPPLIES	0000	NONE	K265S	ER Programs	Linear	500.00	Dollars
Factors	500 Dollars	1	Document Production Suppl					
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	8.119.30	Dollars
Factors	120 Hours		80 \$/Hr senior technical suppor	t				
	T	1				0.84576 [SYS 06140		
A5H		0000	NONE	K265S	ER Programs	Linear	4,059.65	Dollars
Factors	80 Hours		60 \$/Hr technical support					
		1				0.84576 [SYS 06140		
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Linear	6,766.08	Dollars
Factors	100 Hours		80 \$/Hr S. Serrez					
					T	0.84576 [SYS 06140		
A5H	SUBCONTRACTED SRVS	E110	QUALITY CONTROL ENGINEERS	K265S	ER Programs	Linear	888.05	Dollars
Factors	25 Hours		42 \$/Hr S. Luker					
	T					0.84576 ISYS 06140		
A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	K265S	ER Programs	Linear	3.044.74	Oollars
Factors	120 Hours		30 \$/Hr					
	01/0001/7040750 001/0	B000	0011011750 00075140 11111075	1//000		0.84576 [SYS 06140		
_A5H	SUBCONTRACTED SRVS	P060	COMPUTER SYSTEMS ANALYSTS	K109S	Env Svs. Stewardship & Compliance	Linear	4.736.26	Dollars
Factors	80 Hours		70 \$/hr GIS					
	OUD CONTRACTED OR VO	B000	0011011750 01/075140 11/11/075	1/0=00	D	0.84576 [SYS 06140		
_A5H	SUBCONTRACTED SRVS	P060	COMPUTER SYSTEMS ANALYSTS	K253S	Remediation. Industrial & Site Serv	Linear	1.184.06	Jollars
Factors	20 Hours		70 \$/hr			0.04570 10\/0.00110	01 04570000 0	
A =: :	OLIDOONED A OTED ODVO	Door	COMPLITED OVOTEMO ANALYZATO	1/0050	5D D	0.84576 [SYS 06140		
A5H	SUBCONTRACTED SRVS	P060	COMPUTER SYSTEMS ANALYSTS	K265S	ER Programs	Linear	2.368.13	Jollars
Factors	40 Hours		70 \$/Hr Data Anal.					
_						0.84576 ISYS 06140	01 .84576000 - S	vstem

0.84576 [SYS 061400] .84576000 - System

WBS No: 1GAB0C02 Proiect Baseline Devl **Rocky Flats Closure Project** Activity ID: 1GFR000210 WBS Filter 1GAB **Baseline Cost and Basis of Estimate** Activity Filter A5H SUBCONTRACTED SRVS P070 COST ESTIMATORS PLANNERS AN K265S ER Programs Linear Factors 40 Hours \$/hr P&I

0.84576 [SYS 061400] .84576000 - System P160 TECHNICAL WRITERS AND EDITOR | K265S | ER Programs A5H SUBCONTRACTED SRVS 1.065.66 Dollars

30 42 \$/Hr Factors Hours

Line Item 221 - Internal Rev

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site dispositioning.

Experience Item Desc - Internal Review of the Preliminary Draft interim CAD/ROD. Breakdown of Cost Data:

Item - Labor to support internal review of thew Prelim. Draft Interim CAD/ROD.

Units - lot

Unit Cost -Site hours: 110 Subcontract dollars: \$12080

Unit Cost Adjustment factor -none

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

BOE

es		Co	st Element			Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT	TIME BASE	E050	ENVIRON	MENTAL ENGINEERS	R100S	RMRS Salaried	Linear	20.00	Hours
	Factors	20	Hours			N. Demos					
	750	STRAIGHT	TIME BASE	E130	OTHER E	NGINEERS	K311S	D&D Program	Linear	20.00	Hours
1	Factors	20	Hours			D&D					
	750	STRAIGHT	TIME BASE	M040	MANAGE	RS (GRADE 64 - 68)	K265S	ER Programs	Linear	10.00	Hours
	Factors	10	Hours								
	750	STRAIGHT	TIME BASE	P080	HEALTH F	PHYSICISTS	R100S	RMRS Salaried	Linear	20.00	Hours
	Factors	20	Hours			R. Roberts					
	750	STRAIGHT	TIME BASE	S090	OTHER S	CIENTISTS	R100S	RMRS Salaried	Linear	20.00	Hours
1	Factors	20	Hours			W. Chromec					
	750	STRAIGHT	TIME BASE	S090	OTHER S	CIENTISTS	R100S	RMRS Salaried	Linear	20.00	Hours
1	Factors	20	Hours			B. Fiehwea					
	A5H		RACTED SRVS	0000	NONE			ER Programs	Linear	5,412.86	Dollars
	Factors	80	Hours		80	\$/Hr senior technical suppor	t				
1		1							0.84576 [SYS 061400		
	A5H		RACTED SRVS	0000	NONE		K265S	ER Programs	Linear	1,353.22	Dollars
	Factors	20	Hours		80	\$/Hr S. Serrez					
		1			T				0.84576 [SYS 061400		
			RACTED SRVS	E110		CONTROL ENGINEERS	K265S	ER Programs	Linear	710.44	Dollars
	Factors	20	Hours		42	\$/Hr S Luker					_
		T			T				0.84576 [SYS 061400		
			RACTED SRVS	G010		RATIVE ASSISTANTS	K265S	ER Programs	Linear	2.029.82	Dollars
	Factors	80	Hours		30	\$/hr					
1									0.84576 [SYS 061400		
	A5H		RACTED SRVS	P160		AL WRITERS AND EDITOR	K265S	ER Programs	Linear	710.44	Dollars
	Factors	20	Hours		42	\$/Hr					

Line Item 231 - Final Revision and production

0.84576 [SYS 061400] .84576000 - System

Starts In FY

0.84576 [SYS 061400] .84576000 - System

1.420.88 Dollars

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site characterizing and dispositioning.

Experience Item Desc - Final revision and production of the Preliminary Draft Interim CAD/ROD .

Breakdown of Cost Data:

Item - Labor and supplies for final revision and production of the Preliminary Draft Interim CAD/ROD.

Units - lot

Unit Cost -Site hours: 240 Subcontract dollars: \$16790 Document Production Supplies: \$500

Unit Cost Adjustment factor -none

WBS No: 1GAB0C02 *Activity ID:* 1GFR000210

Rockv Flats Closure Project Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		(Cost Element			Skill		Department	Curve	Quantity Units
	750	STRAIGH	T TIME BASE	E050	ENVIRON	IMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00 Hours
I	actors	40	Hours			N. Demos				
	750	STRAIGH	T TIME BASE	E130	OTHER E	NGINEERS	K311S	D&D Program	Linear	25.00 Hours
I	actors	25	Hours		,	D&D				
L	750	STRAIGH	T TIME BASE	M040	MANAGE	RS (GRADE 64 - 68)	K265S	ER Programs	Linear	15.00 Hours
I	actors	15	Hours		1			T		
L	750	STRAIGH	T TIME BASE	P080	HEALTH F	PHYSICISTS	R100S	RMRS Salaried	Linear	60.00 Hours
I	actors	60	Hours		1	R. Roberts		T		
L	750		T TIME BASE	S090	OTHER S	CIENTISTS	R100S	RMRS Salaried	Linear	60.00 Hours
I	actors	60	Hours		1	W Chromec		T		
L	750		T TIME BASE	S090	OTHER S	CIENTISTS	R100S	RMRS Salaried	Linear	40.00 Hours
I	actors	40	Hours		1	B. Fiehwea		T		
L	A5C	SUPPLIES		0000	NONE			ER Programs	Linear	500.00 Dollars
I	actors	500	Dollars		1	Document Production Suppl		I		
L			TRACTED SRVS	0000	NONE		K265S	ER Programs	Linear	2.706.43 Dollars
F	actors	40	Hours		80	\$/Hr S. Serrez				
Г								T	0.84576 [SYS 061400	
L			TRACTED SRVS	0000	NONE	•		ER Programs	Linear	6.766.08 Dollars
F	actors	100	Hours		80	\$/Hr senior technical suppor	t			
Г	A 51.1	OLIDOONI	TO A OTED ODIVO	E110	OLIALITY	CONTROL ENGINEERS	1/0050	ER Programs	0.84576 [SYS 061400	
L			TRACTED SRVS	E110		CONTROL ENGINEERS	K265S	IER Programs	Linear	710.44 Dollars
F	actors	20	Hours		42	\$/Hr S. Luker			0.04570 [0)/0.00440/	01.04570000 0
Г	A5H	CLIDOON	TRACTED SRVS	G010	A DAMANICE	TRATIVE ASSISTANTS	KOCEC	ER Programs	0.84576 ISYS 061400	761.18 Dollars
,				G010			K265S	IER Prodrams	Linear	761.18ID0llars
F	actors	30	Hours		30	\$/Hr			0.84576 [SYS 061400	01 04570000 Custom
Г	A5H	CLIDCON	TRACTED SRVS	P060	COMPLIT	ER SYSTEMS ANALYSTS	K4000	Env Svs. Stewardship & Compliance	0.84576 1515 061400 Linear	2.368.13 Dollars
I	- ASIT Factors	40	Hours	F060	70	\$/hr GIS	KIU9S	ETIV SVS. Stewardship & Combilance	Lilleal	2.306.13ID0IIaIS
Γ	uciors	40	110015		70	ψ/III GIO			0.84576 [SYS 061400	01 84576000 - System
	A5H	SUBCON	TRACTED SRVS	P160	TECHNIC	AL WRITERS AND EDITOR	K265S	FR Programs	Linear	888.05 Dollars
I	actors	25	Hours		42	\$/Hr		IMIT I CONTROLLIO	EIIIOGI	000.0010011010

Line Item 241 - Agency review mtgs

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site dispositioning.

Experience Item Desc - Meetings with agencies to receive, discuss and respond to comments on the Preliminary Draft Interim CAD/ROD . Breakdown of Cost Data:

Item - Labor and travel for meetings with agencies to receive, discuss, and respond to commentson the Preliminary Draft Interim CAD/ROD.

Units - lot

Unit Cost -Site hours: 215 Subcontract dollars: \$17,880 Travel for meetings: \$500

Unit Cost Adjustment factor -none

Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es		Cost Element		Skill		Department	Curve	Ouantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
	Factors	40 Hours		N. Demos					
	750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K311S	D&D Program	Linear	40.00	Hours
	Factors	40 Hours		מאַח					

0.84576 [SYS 061400] .84576000 - System

1GAB0C02 Baseline Devl Proiect **Rocky Flats Closure Project** 1GAB Activity ID: 1GFR000210 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 750 STRAIGHT TIME BASE M040 MANAGERS (GRADE 64 - 68) K265S ER Programs 15.00 Hours Linear 15 Hours P080 HEALTH PHYSICISTS R100S RMRS Salaried 40.00 Hours 750 STRAIGHT TIME BASE Linear 40 Hours R. Roberts 40,00 Hours 750 STRAIGHT TIME BASE OTHER SCIENTISTS R100S RMRS Salaried Linear Factors 40 Hours W. Chromec 750 STRAIGHT TIME BASE S090 OTHER SCIENTISTS R100S RMRS Salaried 40.00 Hours Linear 40 Hours B. Fiehwea A5H SUBCONTRACTED SRVS K265S ER Programs 2.029.82 Dollars 0000 NONE Linear 40 Hours 60 \$/Hr facilitator Factors 0.84576 [SYS 061400] .84576000 - System 0000 NONE K265S ER Programs SUBCONTRACTED SRVS 5.412.86 Dollars Factors 80 Hours 80 \$/Hr senior technical support 0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs Linear 30 Factors Hours 60 \$/Hr technical support 0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS 0000 NONE K265S ER Programs 2.706.43 Dollars Linear Factors 40 Hours \$/Hr S. Serrez 0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS E110 QUALITY CONTROL ENGINEERS K265S ER Programs 710.44 Dollars Linear Factors Hours \$/hr S. Luker 0.84576 [SYS 061400] .84576000 - System 2.029.82 Dollars A5H SUBCONTRACTED SRVS G010 ADMINISTRATIVE ASSISTANTS K265S ER Programs Factors 80 Hours 30 \$/hr 0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS P070 COST ESTIMATORS PLANNERS AN K265S ER Programs 710.44 Dollars Linear Factors 20 Hours \$/hr P&I 0.84576 [SYS 061400] .84576000 - System SUBCONTRACTED SRVS P160 TECHNICAL WRITERS AND EDITOR | K265S | ER Programs Linear 710.44 Dollars Factors 20 Hours 0.84576 [SYS 061400] .84576000 - System K265S ER Programs A5M TRAVEL/TRAIN/RELOCAT 0000 NONE 500.00 Dollars Linear Factors 500 Dollars Travel to Meetings Line Item SYS - Contingency And Escalation Resources Cost Element Skill Department Curve Quantity Units CON CONTINGENCY 0000 NONE ZDEPT No Department 38.667.14 Dollars Linear Factors 38667.1 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department 14.374.30 Dollars Linear Factors 14374.3 Dollars Activity ID: 1GFR000250 Description: Develop and Revise CAD/ROD Comment Responses Cost Risk 3 Schedule Risk Units BOE Labor Labor Hours Labor Cost Materials/ Sub Total Prime Total Cost Line Item Description Quantity Contingency Burden Cost & Escalation TypeHours/Unit Total **Total** Cost Cost Develop CAD/ROD Comment Responses 1.00 each 380 380 13.016 29.322 0 42.338 4.503 46.841 1.00 each 220 220 7.592 16.349 0 23.941 2.627 26.568 Comment resolution mtas Interim CAD/ROD Revision 1.00 each 280 280 9.589 15.740 0 25.329 3.318 28.647 Contingency And Escalation 1.00 ea 0 0 28.879 28.879 0 0 28.879 Total for Activity 1GFR000250: 880 30.197 61.411 28.879 120.487 10.448 130.935 Line Item 251 - Develop CAD/ROD Comment Responses

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site dispositioning.

Experience Item Desc - Develop and revise comment/responses for the Preliminary Draft Interim CAD/ROD .

WBS No:

BOE

251

261

271

SYS

BOE

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Rocky Flats Closure Project Baseline Cost and Basis of Estimate Proiect WBS Filter

Baseline Devl 1GAB

Starts In FY *

Breakdown of Cost Data:

Item - Labor and supplies to develop and revise comment/responses for the Preliminary Draft Interim CAD/ROD.

Units - lot

1GAB0C02

1GFR000250

Unit Cost -Site hours: 380 Subcontract dollars:\$34670

Unit Cost Adjustment factor -none

Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

WBS No:

Activity ID:

r			The state of the s								
es			Cost Element			Skill		Department	Curve	Quantity	Units
	750	STRAIGH	T TIME BASE	E050	ENVIRON	MENTAL ENGINEERS	R100S	RMRS Salaried	Linear	80.00	Hours
ī	Factors	80	Hours			N. Demos		1		I	
Į	750		T TIME BASE	E130	OTHER E	NGINEERS	K311S	D&D Program	Linear	60.00	Hours
ſ	Factors	60	Hours			D&D		1	1		
Į	750	•	T TIME BASE	M040	MANAGER	RS (GRADE 64 - 68)	K265S	ER Programs	Linear	20.00	Hours
ſ	Factors	20	Hours							T	
Į	750	•	T TIME BASE	P080	HEALTH F	PHYSICISTS	R100S	RMRS Salaried	Linear	80.00	Hours
ſ	Factors	80	Hours			R. Roberts					
Į	750		T TIME BASE	S090	OTHER SO	CIENTISTS	R100S	RMRS Salaried	Linear	60.00	Hours
ı	Factors	60	Hours		1	B. Fiehweg			T		
Į	750		T TIME BASE	S090	OTHER SO	CIENTISTS	R100S	RMRS Salaried	Linear	80.00	Hours
ſ	Factors	80	Hours			W. Chromec		1	1	1	
Į	A5H		RACTED SRVS	0000	NONE			ER Programs	Linear	10.825.73	Dollars
	Factors	160	Hours		80	\$/Hr senior technical suppor	t				
ı								1	0.84576 [SYS 06140		
Į	A5H		RACTED SRVS	0000	NONE		K265S	ER Programs	Linear	2.029.82	Dollars
	Factors	40	Hours		60	\$/Hr technical support					
ſ					ı				0.84576 [SYS 06140		
Į			RACTED SRVS	0000	NONE		K265S	ER Programs	Linear	4.059.65	Dollars
	Factors	60	Hours		80	\$/Hr S. Serrez					_
ĺ								I	0.84576 [SYS 06140		
Į			RACTED SRVS	G010		RATIVE ASSISTANTS	K265S	ER Programs	Linear	4.059.65	Dollars
	Factors	160	Hours		30	\$/Hr					
ſ		01100011	-D. (OTED OD) (O				1//000	E 0 0; 111 00 II	0.84576 ISYS 06140		
Į.			RACTED SRVS	P060		ER SYSTEMS ANALYSTS	K109S	Env Svs. Stewardship & Compliance	Linear	2.960.16	Dollars
	Factors	50	Hours		70	\$/hr GIS			0.04570 10\/0.00440	01 04570000 6	
ſ	4511	OUDOON	EDA OTED ODA	Dooo	COMPUTE	-D 0)/075140 ANALY/070	1/0500	D	0.84576 [SYS 06140		
Į			RACTED SRVS	P060		ER SYSTEMS ANALYSTS	K253S	Remediation. Industrial & Site Serv	Linear	888.05	Dollars
	Factors	15	Hours		70	\$/hr W. Cheeks			0.04570 [0)/0.00440	01 04570000 6	S
[٨٢١١	CLIDOONIT	TDA CTED CDVC	P060	COMPLITE	ED CYCTEMO ANALYCTO	KOCEC	ER Programs	0.84576 ISYS 06140	2.368.13	
Į		40	RACTED SRVS Hours	P060	70	ER SYSTEMS ANALYSTS \$/Hr Data anal.	K2055	IER Programs	Linear	2.368.13	Dollars
	Factors	40	Hours		70	⊅/пг Data anai.			0.04576 [0.00.06140	01 04570000 0	Cuatama
[A5H	CLIDCONI	TRACTED SRVS	P070	COST FST	TIMATORS PLANNERS AN	VOCEC	ER Programs	0.84576 [SYS 06140 Linear	710.44	
l		20		F0/0	42	\$/hr P&I	N2000	EN Plogialis	Lilleal	7 10.44	Dollais
	Factors	20	Hours		42	φ/III F αI			0.84576 [SYS 06140	01 94576000 9	Systom
ĺ	A5H	SLIBCONT	TRACTED SRVS	P160	TECHNIC	AL WRITERS AND EDITOR	K2659	ED Drograms	U.84576 SYS 06140	1.420.88	
Į.		40	Hours	F100	42	\$/Hr	1\2003	ILIN FIUGIAIIIS	Lilleal	1,420.00	Dollais
	Factors	40	110015		42	Φ/1 II			·		

Line Item 261 - Comment resolution mtgs

0.84576 [SYS 061400] .84576000 - System

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site cyharacterizing and dispositioning.

Experience Item Desc - Organize and attend 4 comment resolution metings on agency comments on the Preliminary Draft Interim CAD/ROD. Breakdown of Cost Data:

Item - Labor and sucontract dollars to organize and attend 4 comment resolution meetings on the agency comments on the Preliminary Draft Interim CAD/ROD.

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Baseline Cost and Basis of Estimate

Proiect
WBS Filter
Activity Filter

Baseline Devl 1GAB

Starts In FY *

0.84576 [SYS 061400] .84576000 - System

1GFR000250 Units - lot

1GAB0C02

Unit Cost -Site hours: 220 Subcontract dollars:\$19330

Unit Cost Adjustment factor -none Revised Unit Cost - none Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

WBS No:

Activity ID:

es		Cost Element		1	Skill		Department	Curve	<i>Ouantity</i>	Units
L	750	STRAIGHT TIME BASE	E050	ENVIRON	MENTAL ENGINEERS	R100S	RMRS Salaried	Linear	40.00	Hours
ب	Factors	40 Hours		1	N. Demos					
	750	STRAIGHT TIME BASE	E130	OTHER E	NGINEERS	K311S	D&D Program	Linear	40.00	Hours
-	Factors	40 Hours		1	D&D					
L	750	STRAIGHT TIME BASE	M040	MANAGE	RS (GRADE 64 - 68)	K265S	ER Programs	Linear	20.00	Hours
4	Factors	20 Hours					1			
	750	STRAIGHT TIME BASE	P080	HEALTH F	PHYSICISTS	R100S	RMRS Salaried	Linear	40.00	Hours
ŕ	Factors	40 Hours			R. Roberts					
L	750	STRAIGHT TIME BASE	S090	OTHER S	CIENTISTS	R100S	RMRS Salaried	Linear	40.00	Hours
ŕ	Factors	40 Hours			W. Chromec					
L	750	STRAIGHT TIME BASE	S090	OTHER S	CIENTISTS	R100S	RMRS Salaried	Linear	40.00	Hours
ŕ	Factors	40 Hours		T	B. Fiehwea					
L	A5H	SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs	Linear	2.706.43	Dollars
	Factors	40 Hours		80	\$/Hr S. Serrez					_
Г		I	1					0.84576 [SYS 06140		
L	A5H	SUBCONTRACTED SRVS	0000	NONE		K265S	ER Programs	Linear	2,029.82	Dollars
	Factors	40 Hours		60	\$/Hr facilitator					
Г		Ta.,		I			T	0.84576 [SYS 06140		
L	A5H	SUBCONTRACTED SRVS	0000	NONE	•		ER Programs	Linear	6,766.08	Dollars
	Factors	100 Hours		80	\$/Hr senior technical support	t				
Г		OUD COLUTE A COTTED COLUC	0010		55.4 TIV (5.4.6.6.10 T.4.1 T.6.	1/00=0		0.84576 [SYS 06140		
L	A5H	SUBCONTRACTED SRVS	G010		TRATIVE ASSISTANTS	K265S	ER Programs	Linear	2,537.28	Dollars
1	Factors	100 Hours		30	\$/hr			0.04570 [0)/0.00440	01 04570000	
Г	4511	OLIDOONED A OTED ODVO	D070	0007.50	TIMATORO DI ANNIERO ANI	1/0050	ED 2	0.84576 [SYS 06140		
L	A5H	SUBCONTRACTED SRVS	P070		TIMATORS PLANNERS AN	K265S	IEK Programs	Linear	1.420.88	Dollars
	Factors	40 Hours		42	\$/hr P&I			0.04570 [0]/0.00440	01 04570000 (
Г	4511	OLIDOONED A OTED ODVO	D400	TEOLINIO	AL MOITEDO AND EDITOR	1/0050	ED 2	0.84576 [SYS 06140		
L	A5H	SUBCONTRACTED SRVS	P160		AL WRITERS AND EDITOR	K265S	IER Programs	Linear	888.05	Dollars
1	Factors	25 Hours		42	\$/hr					

Line Item 271 - Interim CAD/ROD Revision

BOE

Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site characterizing and dispositioning.

Experience Item Desc - Revise the Preliminary Draft Interim CAD/ROD.

Breakdown of Cost Data:

Item - Labor and sucontract dollars to revise thee Preliminary Draft Interim CAD/ROD.

Units - lot

Unit Cost -Site hours: 280 Subcontract dollars:\$18610

Unit Cost Adjustment factor -none

Revised Unit Cost - none

Basis for adjustment - none

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

es			Cost Element			Skill			Department	Curve	Ouantity	Units	
	750	STRAIG	HT TIME BASE	E0:	0 ENVIRO	NMENTAL ENGIN	IEERS	R100S	RMRS Salaried	Linear	60.00	Hours	
	Factors	60	Hours			N. Demos							

1GAB0C02 Baseline Devl Proiect **Rocky Flats Closure Project** 1GAB Activity ID: 1GFR000250 WBS Filter **Baseline Cost and Basis of Estimate** Activity Filter Starts In FY 750 STRAIGHT TIME BASE E130 OTHER ENGINEERS K311S D&D Program 40.00 Hours Linear 40 Hours D&D K265S ER Programs 20.00 Hours 750 STRAIGHT TIME BASE M040 MANAGERS (GRADE 64 - 68) Linear Hours 750 STRAIGHT TIME BASE P080 HEALTH PHYSICISTS R100S RMRS Salaried Linear 60.00 Hours Factors 60 Hours R. Roberts 750 STRAIGHT TIME BASE OTHER SCIENTISTS R100S RMRS Salaried 60.00 Hours Linear 60 Hours W. Chromec Factors 750 STRAIGHT TIME BASE S090 OTHER SCIENTISTS R100S RMRS Salaried 40.00 Hours Linear 40 Hours B. Fiehweg K265S ER Programs 6.766.08 Dollars A5H SUBCONTRACTED SRVS 0000 NONE Linear Factors 100 Hours \$/Hr senior technical support 0.84576 [SYS 061400] .84576000 - System K265S ER Programs 0000 NONE A5H SUBCONTRACTED SRVS Linear 2.706.43 Dollars 40 \$/Hr S. Serrez Factors Hours 80 0.84576 [SYS 061400] .84576000 - System K265S ER Programs A5H SUBCONTRACTED SRVS G010 ADMINISTRATIVE ASSISTANTS Linear 2 537 28 Dollars \$/Hr Factors 100 Hours 30 0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS P060 COMPUTER SYSTEMS ANALYSTS K109S Env Svs. Stewardship & Compliance Linear 2.664.14 Dollars Factors 45 Hours \$/hr GIS 0.84576 [SYS 061400] .84576000 - System A5H SUBCONTRACTED SRVS P160 TECHNICAL WRITERS AND EDITOR | K265S | ER Programs 1.065.66 Dollars Linear Factors 30 Hours 42 \$/Hr 0.84576 [SYS 061400] .84576000 - System Line Item SYS - Contingency And Escalation Resources Cost Element Skill Units Department Curve **Ouantity** CON CONTINGENCY 0000 NONE ZDEPT No Department 21.052.68 Dollars Linear Factors 21052.7 Dollars 7.826.22 Dollars ESC ESCALATION 0000 NONE ZDEPT No Department Linear Factors 7826.22 Dollars Activity ID: 1GFR000290 Description: Incorporate Interim CAD/ROD Fnl Agency Comments Cost Risk 2 Schedule Risk Materials/ Sub Labor Labor Cost Total Prime Line Item Description Quantity Units BOELabor Hours Contingency Burden Cost Total Cost TypeHours/Unit **Total** Cost & Escalation Cost 310 19.226 3.467 33.339 Incorporate final comments prod. final doc. 1.00 each 310 10.646 0 29.872 EE Contingency And Escalation 1.00 ea 0 0 7.595 7.595 0 7.595 Total for Activity 1GFR000290: 310 10.646 19.226 7.595 37.467 3.467 40.934 Line Item 291 - Incorporate final comments prod. final doc. Estimators Experience - Based on 12 years estimator's experience in scoping, budgeting, and CERCLA (Superfund) site characterizing and dispositioning. Experience Item Desc - Organize and attend 4 comment resolution metings on agency comments on the Preliminary Draft Interim CAD/ROD. Breakdown of Cost Data: Item - Labor, sucontract dollars and supplies to organize and attend 4 comment resolution meetings on the agency comments on the Preliminary Draft Interim CAD/ROD. Unit Cost -Site hours: 310 Subcontract dollars: \$21,550 Production Supplies: \$1000 Unit Cost Adjustment factor -none Revised Unit Cost - none Basis for adjustment - none This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

WBS No:

BOE

291

SYS

BOE

Resources

Units

WBS No: Activity ID:	1GAB0C02 1GFR000290		Closure Project and Basis of Estimate Project WBS Filter Activity Filter	Baseline Devl 1GAB	Starts In FY *
	750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	60.00 Hours
	Factors 60 Hours	N. Demos	THE SAID OF THE SA	2110501	22122112212
	750 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	K311S D&D Program	Linear	60.00 Hours
	Factors 60 Hours	D&D			
	750 STRAIGHT TIME BASE	M040 MANAGERS (GRADE 64 - 68)	K265S ER Programs	Linear	20.00 Hours
	Factors 20 Hours				
	750 STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Linear	60.00 Hours
	Factors 60 Hours	R. Roberts			
	750 STRAIGHT TIME BASE	S090 OTHER SCIENTISTS	R100S RMRS Salaried	Linear	60.00 Hours
	Factors 60 Hours	W. Chrome			
	750 STRAIGHT TIME BASE	S090 OTHER SCIENTISTS	R100S RMRS Salaried	Linear	50.00 Hours
	Factors 50 Hours	B. Fiehwea			
	A5C SUPPLIES	0000 NONE	K265S ER Programs	Linear	1.000.00 Dollars
	Factors 1000 Dollars	Document Production Supr			
	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	6.766.08 Dollars
	Factors 100 Hours	80 \$/Hr senior technical suppo		0.84576	001 .84576000 - Svstem
	A5H SUBCONTRACTED SRVS	0000 NONE	K265S ER Programs	Linear	2.706.43 Dollars
	Factors 40 Hours	80 \$/Hr S. Serrez		0.84576 ISYS 06140	001 .84576000 - Svstem
	A5H SUBCONTRACTED SRVS	G010 ADMINISTRATIVE ASSISTANTS	K265S ER Programs	Linear	2.537.28 Dollars
	Factors 100 Hours	30 \$/Hr			
					00] .84576000 - System
	A5H SUBCONTRACTED SRVS	P060 COMPUTER SYSTEMS ANALYSTS	K265S ER Programs	Linear	1,776.10 Dollars
	Factors 30 Hours	70 \$/Hr Data Analysis			
					001 .84576000 - System
	A5H SUBCONTRACTED SRVS	P060 COMPUTER SYSTEMS ANALYSTS	K267S Analytical Laboratory Services	Linear	3,552.19 Dollars
	Factors 60 Hours	70 \$/hr GIS			
		<u> </u>			00] .84576000 - System
	A5H SUBCONTRACTED SRVS	P160 TECHNICAL WRITERS AND EDITOR	R K265S ER Programs	Linear	888.05 Dollars
	Factors 25 Hours	42 \$/Hr			
				0.84576 [SYS 06140	001 .84576000 - System
	S - Contingency And Escalation				
BOE					
Resources	S Cost Element	Skill	Department	Curve	Ouantity Units
	CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	4.836.05 Dollars
	Factors 4836.05 Dollars				
	ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	2.758.81 Dollars
	Factors 2758.81 Dollars				
Report Totals	s:				
Labor Hours		Total Prime Burden Cost Total Cost			
T 1	Total Cont 8 Forelesion	Cont			

346.886 10.248.371 40.214.736 15.340.826 65.803.934

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